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1929.

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PREFACE.

The last edition of the Gazetteer of the Muzaffargarh District was published in 1908 after the conclusion of the second regular settlement of the district by Pandit (now Raja) Hari Kishan Kaul. The third regular settlement was conducted by Mr. J. D. Anderson, I.C.S., in 1921-24. Mr. Anderson was unable, however, to take up the revision of the Gazetteer, which it is usual for the Settlement Officer to do, because of his transfer to the judicial branch of the service. The work was therefore entrusted to me some months ago.

I have used freely the former edition of the Gazetteer of the district and the Gazetteer of the Leiah Tahsil (which was added to the Muzaffargarh District in 1909), Mr. Anderson's Tahsil Assessment Reports, Final Settlement Report (1929) and Special Report on the District (1927).

A new edition of volume B will be prepared after the census of 1931.

I acknowledge, with thanks, the information supplied to me for the revision by the officers of other departments serving in the district.

EDWARD H. LINCOLN,

January 1930. *Deputy Commissioner, Muzaffargarh.*

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CHAPTER I, A.

PHYSICAL ASPECTS —METEOROLOGY.

Name of District.

The Muzaffargarh District in the Multan Division takes its name from the town where the headquarters are situated. Muzaffargarh literally means the fort of Muzaffar, and is so called because the old town lies inside the walls of a fort built by Nawab Muzaffar Khan of Multan, who is referred to in section B of this chapter. Prior to that, the place was known by a shop, called Musan Hatti, on the road leading from Multan to Dera Ghazi Khan. The district was originally called Khangarh, with headquarters at Khangarh. In 1859 the headquarters were moved to Muzaffargarh.

Boundaries.

The district, lying roughly between 29° and 31° N. and 70° and 71·5° E., consists of a triangular block of land running north and south between the Indus and Chenab Rivers, with its base to the north and its apex at the confluence of the Indus and Chenab Rivers, the Chenab here consisting of the united waters of the five rivers of the Punjab. As its boundaries are fixed,* small portions of the district lie on the left bank of the Chenab and on the right bank of the Indus. On the north the district touches the Mianwali and Jhang Districts, on the east the Jhang and Multan Districts and the Bahawalpur State and on the west the Dera Ghazi Khan District and the Dera Ismail Khan District of the North-West Frontier Province.

Area and population.

The area of the district is 6,052 square miles (according to revenue records 5,561 square miles), which gives it second place among the districts of the Punjab. The population, according to the census of 1921, is 568,478.

Tahsils.

The district has four tahsils—Leiah, Kot Adu, Muzaffargarh and Alipur. The Leiah Tahsil, previously part of Dera Ismail Khan and afterwards of Mianwali, was joined to the district in 1909. Leiah was at one time the headquarters of a district and of a commissionership. The Kot Adu Tahsil was originally part of the old Leiah District, but in 1859 was joined to the Muzaffargarh District. The headquarters of the tahsil were first at Kot Adu, but in 1871 were transferred to Sanawan, and the name was changed to Sanawan. In 1919 the headquarters were moved back to Kot Adu on account of excessive water-logging, and the former name was resumed. Originally the Muzaffargarh Tahsil was

* See Settlement Report of the Second Regular Settlement.

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divided from north to south into two tahsils: the Chenab, with headquarters at Khangarh, and the Indus, with headquarters at Kinjhar. The present Rangpur Sub-Tahsil was then united with the southern part of Shorkot (Jhang District), and was a tahsil by itself. The Alipur Tahsil has always formed part of the district. The headquarters were formerly at Sitpur. This is referred to also in chapter I-B.

Physical Aspects.

There are two parts of the district: that which receives inundation in some form from the rivers, and that which does not; the latter is the Thal, the former the strips of country lying between it and the Chenab and Indus.

At the northern boundary of the district the Thal rises above the Indus riverain, here about 10 miles wide, in a steep cliff about 20 feet in height. Except for the strip of country by the river—known as the *kachchhi*, or armpit—the whole of the rest of the Leiah Tahsil is desert, supporting large flocks of sheep, fewer goats and in the winter large herds of camels. The wells, which are worked almost as much to give water to the flocks as for cultivation, are situated in three long strips of hard level ground running roughly from north-west to south-east; these strips, which are obviously old beds of the Indus, are separated one from the other by low sand-hills, and vary greatly in fertility; that on the east is sterile; the middle one is less desolate; while the easternmost, which lies above the bank of the Indus, is almost everywhere very fertile, and in places is covered with a scattered growth of *jhand* (Prosopis spicigera) trees. These three strips run into the Kot Adu Tahsil as far as Sanawan town, south of which they disappear in a mass of tumbled sand-hills, among which are oases of flat fertile land. The width of the Thal lessens from north to south as the Chenab and Indus approach one another; and in the south, where its level falls to that of the neighbouring riverain, irrigation has been extended into it, and estates classified as belonging to the Thal have now little claim to the name. The southern apex of the Thal is in the middle of the Muzaffargarh Tahsil, below which point water from the rivers flows across the whole district. In the Leiah Tahsil the Thal is classed as the Thal *Kalan*, the *Jandi* Thal, *Powah* and *Dhaha*. In the Kot Adu Tahsil the classification is *Jal* Thal and *Roday* Thal. The products of the Thal play a very important part, and are described in chapter II-A.

The riverain part of the district may be further divided into three zones. The first is a comparatively narrow strip along both rivers, where the summer floods are so high that no kharif crop can be grown, and the rabi can be matured

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without well irrigation. Inside this zone is a second, where the floods are less violent, and a little inferior kharif can be grown in the highest lands; the rabi, though sown on flood water, needs irrigation unless the winter rainfall is unusually good, and is watered by Persian-wheels set up on creeks and ponds; or, if the site is safe from the river, on wells. In this zone, especially on the Indus in the Leiah Tahsil, the farmers do their best by throwing up dams of earthwork and brushwood to control the floods which come to them in a normal year not direct from the river, but through the creeks which flow from it. In the third zone the flood waters of the rivers are brought to the lands through inundation canals, of which the heads are situated on some creek; except in the south of the Alipur Tahsil, the canal-irrigated lands are protected from river flood by embankments.

The eastern side of the district, where the soil has been deposited by the Chenab, is of great natural fertility; the rest of the district, or roughly 9/10ths of the whole, is Indus sand, inferior to the Chenab silt, though almost everywhere good crops can be grown in favourable conditions. The water-table is high, and even in the northern Thal there are no wells with a winter water-table lower than 40 feet; south of the Leiah-Kot Adu border the winter water-table is from 12 to 6 feet; particularly in places where the natural run-away of the surface water has been stopped by the railway, roads, canal channels and embankments the district is water-logged; where water-logging continues for a number of years, saltpetre rises to the surface and the ground goes out of cultivation; water-logging, with its attendant evils, varies from year to year according to the season, and it is impossible to predict its incidence and extent; estates which were formerly described as of great fertility are now wastes of white salt, while others described as ruined by salt are now no worse than their neighbours. Saltpetre may be found anywhere in the district, but is worst in the strip of country between the Thal and the protective embankments, and is particularly bad between Rangpur and Muzaffargarh towns and in the depression round Sanawan town.

Embankments or *Bunds.*

Parallel to the Indus, and about 5 miles east of the main stream, runs the great Sanawan embankment. This has its base on the railway 5 miles north of the Leiah-Kot Adu border and ends near Jatoi in the Alipur Tahsil. West of this embankment the country is exposed to floods either from the Indus or from its tributary creeks, of which the largest is the Ghuttu, the source of the most important Alipur

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canals. On the side of the Chenab a shorter embankment with its base on the sand-hills of the Thal, about 8 miles north of Muzaffargarh town, runs parallel with the river to a spot about 6 miles north of the Alipur-Muzaffargarh border. There is a *bund* near Langar Serai, another east of Khangarh and others near Bara and Khanwah in the Alipur Tahsil. These are all maintained by the Canal Department.

Canals.

The prosperity of the district depends upon the inundation canals, and their maintenance is a most difficult problem owing to the constant need of new headworks due to the vagaries of the rivers and the difficulty of reconciling supply of water in the earlier months of the hot weather with prevention of overflooding in the monsoon season.

There are 6 Indus canals and 3 Chenab canals. The canal system is dealt with more fully in chapter II-A.

Rivers—The Indus.

The Indus flows along the western boundary of the district throughout its length. The slope of the bank in this district is shelving and easy, the set of the stream being towards the right bank, which, in the Taunsa Tahsil of Dera Ghazi Khan, is high and steep. In the cold weather it is 2 miles wide. In the hot weather it overflows its banks to such an extent that its width cannot be estimated. Its depth varies from 12 feet in the winter to about 24 feet in the summer. The current is strong and rapid, and frequently changes are very perceptible. It has a tendency to form islands and shoals, which makes its navigation dangerous to boats. The islands are mostly overgrown with a dense grass jungle; this grass is *kan* (Saccharum spontaneum), and *not kana* or *munj* (Saccharum sara), which it resembles. The inland portion of the district contains water-courses which were once beds of the Indus. In receding westward it has left various side-channels, which are easy and safe means of irrigation. The inundation canals of the district have their heads in the side-channels. The name of the Indus is "Sindh," which has three distinct meanings: (1) the river Indus; the country on both banks of the river Indus and subject to its influence; and (3) the province of Sindh.

The Chenab.

The Chenab flows along the eastern boundary of the district for about 125 miles. The bank of the Chenab is in parts high and steep, in others the slope is shelving and easy. The depth of the stream varies from 15 feet in winter to 30 in summer. The Chenab is narrower and less rapid than the Indus. The deep stream shifts very much, and navigation is difficult, but not so dangerous as that in the Indus. The Chenab does not betray any marked tendency to encroach on one bank more than the other. The general set

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is to the west, and the small town of Rangpur appears to be in some danger of erosion.

Dhunds or Back-waters.

The side-channels of the rivers, the inlets from the rivers and the lakes are called *dhands*. The side-channels are also termed *phats*. The *dhands* supply irrigation by means of Persian-wheels. Some of them abound in fish, and duck and snipe are sometimes found. The *dhands* vary much in size and depth according as the floods fill them or not. The canal protective works have, however, changed the character of the *dhands* of the district, and sometimes they have to be filled by the Canal Department in order to preserve the fisheries, which have deteriorated in recent years. The following are the most permanent:—

(1) Ghazanfargarh *dhand* in the village of Ghazanfargarh, 15 miles south of Muzaffargarh; and

(2) The Garang *dhand*, south of the Alipur Tahsil; its northern end is in the village of Bhambri and its southern end in Kotli Lal. It is about 5 miles long in the cold weather, and is winding. Its width is about 30 yards on an average, and its greatest depth about 12 feet. Snub-nosed crocodiles are occasionally seen, and there are many large tortoises. There are a few hamlets on the banks of this *dhand* where egrets are farmed. A boat can be obtained readily, and it is an interesting excursion to these farms. The Khanwah Rest-house is near.

Geology.

The district contains nothing of geological interest.

Botany—Trees.

The district is full of vegetation of great variety. The following is a list of the trees:—

The *Tahli*.

Tahli, or *shisham* (Dalbergia sissu).—This tree grows with great luxuriance. There are many avenues, the best being one 5 miles long, leading from Muzaffargarh to the Chenab bridge.

The *Kikkar*.

Kikar, locally called *kikkar* (Acacia arabica), is less common. It suffers much from frost, but, where it escapes this danger, it grows into a very fine tree. The wood is much used for agricultural implements. The young branches of the *kikkar*, *ber* and *jand* are cut as fodder for goats, and are called *langi* and *lung*.

The *Sharinh*.

The *sharinh* or *siris* (Acacia speciosa) grows badly. It sometimes reaches a large size, but the wood is always much worm-eaten.

The *Jand*, or *Kanda*.

The *jand*, or *kanda* (Prosopis spicigera) is the commonest tree in the district. The rakhs are full of it. Where it escapes being lopped, it attains a fair size, but it is generally stunted and deformed from being cut for *langi*. In the Thal, where it is carefully preserved on the wells and regularly pruned, it grows straight up to a height of about 30 feet, and its girth is sometimes as much as 9 or 10 feet. The pods are called

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shangar, or *sangar*, or *sangri*, and are used for food, being eaten either boiled with *ghi* as a relish, or mixed with curds and called *araita*. They are also dried as a preserve. Hindu bridegrooms generally, and a few Muhammadans, cut a small branch of a *jand* tree before the marriage procession reaches the bride's house. Offerings are made to the *jand* tree by the relations of Hindu smallpox patients during an attack of smallpox. Women appear to worship the tree. The wood is used for agricultural implements and fuel.

The *ber*.

The *ber* (Zizyphus jujuba) is common, and attains a large size. Near Rohillanwali are some very fine trees. The dried fruit is called *bhugrian*.

The *Ukanh*.

The *ukanh* (Tamarix orientalis) is called *tulha* while young. It thrives everywhere, and is propagated with ease. The manna of this and of the *lai* is called *shaklo*. The galls, *main*, are used for dyeing and tanning.

The *Lai*.

The *lai* (Tamarix dioica), called *pilchhi* and *jhau*, grows spontaneously wherever river water reaches. The river-banks, particularly those of the Indus, are lined with thickets of it. *Lai* is used in places, instead of masonry, for lining wells and for making baskets. It is usually a mere bush, but in the Thal, for example, west and north of Mahmud Kot, it grows to so large a size as to be worth selling as fuel.

The *Jal*.

The *jal* (Salvadora oleoides) grows spontaneously in the Thal and in waste land. The wood is of little value. The fruit is called *pilh* (plural *pilhun*), and is largely eaten. The dried fruit is called *kokir*. The leaves and twigs furnish fodder for goats and camels.

The *Jhit*.

The *jhit*, a variety of *jal* (Salvadora indica), is common in the south of the district, especially in the inundated parts. It is of no use except to make tooth-sticks, *miswak*, locally called *musag*, for which use its bitter wood makes it a favourite.

The *Karinh*.

The *karinh* or *karita* (Capparis aphylla) is common in waste land. It makes rafters and fuel of an inferior sort. The flower is boiled and eaten as a vegetable. The name of the fruit is *delha*. It is made into pickle.

The *Ubhan* or *Bahan*.

The *ubhan* or *bahan* (Populus euphratica) grows spontaneously on the banks of the Indus, Lower Chenab and Sutlej after its junction with the Chenab. Where it escapes lopping, it attains a large size. Its young branches provide fodder for goats. The wood is light, and consequently is used for making beds, door-frames, *bair*, wheels for wells and rafters.

The *Phog*.

Phog (Calligonum polygnoides) grows in the Thal, where it is very abundant. It is a small leafless shrub. The wood makes excellent charcoal. The twigs provide fodder for goats and camels. The fruit ripens in May. It is called *phogli*, and is both cooked as a vegetable and made into bread.

The *Ak*.

Ak (Calotropis procera) should not perhaps be classed as a tree, but specimens occur 10 feet high with wooded stems nearly a foot in girth. It is usually a shrub. Goats and

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sheep eat the leaves. *Akri* (Nithania coagulans), a smaller plant of much the same appearance, is also found; goats will eat the young shoots.

Other Trees.

The trees before mentioned are those commonly seen. The following are more rare; but, as they are common Indian trees, they require no description: (1) *Pippal* (Ficus religiosa); (2) *Bohir* (Ficus indica); (3) *Amaltas*, here called *girdnalli* (Cathartocarpus fistula); (4) *Lasura* (Cordia myxa); (5) *Rohira* (Tecoma undulata); (6) *Gondi* (Cordia rothii); (7) *Jaman*, here called *jammun* (Sizygium jambolanum); (8) *Chhichhra* (Butea frondosa); (9) *Phulai* (Acacia modesta); (10) *Kabali kikkar* (Acacia supressiformis); and (11) *Sohanjna* (Moringa pterygosperma). *Pippals* and *bohirs* should be more abundant than they are for they were carefully preserved by Diwan Sawan Mal. No one could get leave to cut a *tahli* tree, even in his own land, without a personal application to the Diwan and without paying the full price. Even a *kikkar* or *ber* could not be cut without obtaining the permission of the *kardar* and paying the full price of it; but to cut a *pippal* or *bohir* was absolutely forbidden, and entailed severe punishment.

Fruit Trees.

The fruit trees are mangoes, pomegranates, apples (*suf*), pears, grapes, quinces, oranges, limes and figs. The mangoes are superior, and are largely produced and exported. Mango gardens are common all over the district, but those round about the towns of Muzaffargarh, Khangarh and Sitpur are very productive. One tree in Bhutapar, near Muzaffargarh, is very famous, and its produce is sold for a considerable sum. A fruit-growers' association has recently been formed in the district. Garden trees and shrubs and all annuals do well if looked after. Vegetables also grow well and are grown extensively, especially in the Leiah Tahsil.

Garden Trees, etc.

Date-palms.

The most remarkable plant in the district is the date-palm (*khajji*). The fruit forms a staple food during part of the year, and poor people practically subsist on dates for about 4 months. Every part of the plant has a separate name and a separate use. The trees furnish a considerable revenue to Government. The *khajji* grows in every part of the district and flourishes in the poorest soil. A detailed description of the tree is useful. Dates are divided into *nar* (male), *mada* (female), *khassi* (neuter) and *bogh*, which means in Arabic a casing, and, applied to dates, means stoneless. In February one or more spathes issue from the root of the terminal cluster of leaves. The spathe is called *sippi* (a shell). As the spathe opens, clusters of tendrils (*mal*) emerge, covered with little white waxy balls, which

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are the flower-buds. The clusters are called *gosha*, and the buds *bur*. In April the fruit is the size of a pea, and is called *makora* or *pippun*. At this stage birds do great damage. In July the fruit has attained its full size, and is called *gandora* or *doka*, and those dates are gathered which are to be ripened by being salted called *luni pind*, "salted dates." In July and August the fruit is completely ripe, and is called *pind*. A few ripen later in the month of *Badra* (August-September), and are hence called *badri*. Dates are either cultivated, in which case they are called *hath radh*. or grow spontaneously, when they are called *apere jamian* or *giddarian*, from a story that they have sprung from stones which jackals have thrown away after eating the fruit. At the end of April watchers called *rakhas* are hired to watch the fruit. Dates are also preserved by the clusters being enclosed in network bags made of grass, which are called *tora*, or bags of matting made of the pinnæ of the date tree, called *bindi*. When the dates ripen, pickers (*charha*) are hired. The picker keeps himself in position at the top of the tree by a thick rope which passes round the tree and under him. The rope is called *kamand*. The picked dates are taken to an enclosure made of date-palms called *khori*, and are exposed to the sun on a mat for 4 days, after which they are ready for storing or export. Dried dates will keep good till November, after which they usually breed worms.

Arabian Dates.

Arabian dates have been introduced by the Agricultural Department, and are successfully grown in the District Board Gardens at Muzaffargarh and Leiah. The suckers were first planted in 1912. There is a great demand for the suckers, but the department cannot supply them yet as the plantations have not been stocked fully. The plantations are run at a loss, and the District Board has asked the Agricultural Department, which manages them, to take over the Taliri Garden at Muzaffargarh. The best indigenous dates grow in the vicinity of Alipur north in the Muzaffargarh Tahsil.

Parts of Date Tree and Use of Each.

Every part of a date tree has a separate name and a separate use. The stem is called *mundh* while standing, and *chhanda* when cut down and trimmed of its branches. It is used for rafters, and, when hollowed out, for aqueducts. A cluster of stems springing from one stool is called *thadda*, and a grove of dates is *jhat*. The leaf stalk is called *chhari*, and is used for making fences, frames and such light woodwork as in other parts would be made of bamboo. It is also beaten into fibre and used for making ropes. The *chharis* are cut every year, and the stumps are called *chhanda*, and near Rangpur *daphi*. The pinnæ are called in the south of the district *bhatra*, and in the north *phara*. They are used for making mats, baskets, fans and ropes. The *rete* or

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network fibre that is formed at the base of each petiole is called *kubal*, and is used for making ropes. The fruit stalk, with the fruit on, is called *gosha* and *buhara* after the fruit is picked, when it makes an efficient besom. The cluster of leaves at the top of the palm is called *gacha*, and in the heart of it is the terminal cabbage-like head called *gari*, which is edible. The date-stone is called *gakkar*, *gitak* and *gika*. The thorns are *thuha*.

Diseases of Date-palms and their Fruit.

When a date-palm begins to fall off in bearing, it is severely scorched, which is said to restore productiveness. Palms growing in sandy soil often dry up without any apparent cause. This disease is called *barra*, a local name for fever. Worms of various sorts attack the fruit while still on the tree, particularly that called *susari*. It is like a weevil. The greatest enemy of the date is continued rain, which, when it occurs, completely destroys the crop.

Water Plants of the *Dhands*.

Besides fish, an account of which will be given hereafter, the products of the *dhands* are as follows: Water lilies (Nelumbium speciosum). The local name is *pabbin*. The flowers are used for medicine, and considered cooling. The seed capsules hold seeds embedded in cellular pith of the size and taste of a filbert. While young, the seeds are eaten raw or cooked as a vegetable. The flesh of the seed is called *gar;* it is white, covered with a green seed-coat. The seeds are considered a cure for vomiting, and, mixed with sugar, good for diseases of children. The roots of the *pabbin* spread in the mud at the bottom of the *dhand*. They are long and white and divided into lengths by knots. They are dug up and eaten, either roasted with salt or boiled as a vegetable. *Pabbin* roots are called *bhe*, a corruption of the Persian *bekh*, or root. *Singharas* (Trapa bicornis) are sometimes found in the *dhands*. The nuts are dried, and, when required for use, the kernels are separated from the husks by pounding, and made into flour. *Kundr*, bulrush (Typha augustifolia), is found in most of the *dhands*, especially in the south of the district. The flags are called *phara*, and are used for making matting called *parchha* and *phuri*, and string for beds. A *charpai* of bulrush string is highly esteemed for its softness and coolness. The down of the ripe ear is collected and boiled in a cloth like a plum-pudding. It has a sweetish, insipid taste. The down is called *bur*, and down pudding is *buri*. At the lower part of the ear a fibrous substance, something like cotton, is produced, which is called *kahu*. This is used as tinder, and is much sought after by the frontier Biloches.

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Fodder Plants.

The following are the most common and esteemed fodder plants. *Talla*, or *dub*, grows everywhere except in *kallar* and sandy soil. It is an excellent grass for fodder, and is a sign of good soil. *Chembhar* in sandy soils takes the place of *talla* as a fodder grass. It is a prostrate grass that sends out runners. It is surprising to see how fast it grows in the Thal after rain. It is excellent fodder. *Drabh* is a strong coarse grass with long roots. It grows in all kinds of soils, even in the poorest, and remains green all the year round. It is difficult to eradicate. *Madhana* is a rain grass of excellent quality while it lasts. It is so called because its flower resembles a *madhani* or churn-dasher. *Trir*, or *makhnala*, is another rain grass, and is much liked by horses. *Kal*, or *kabba*, is also a rain grass, and is excellent fodder while green, but it soon grows hard and uneatable. *Lehu* is a thistle, and grows abundantly among the rabi crops. It is grazed, and also cut and given to cows and bullocks to eat. *Visah* is a spreading fleshy-leaved plant which grows in the rains. It is eaten by all animals except horses and asses. This is the plant elsewhere called *itsit*. *Sinjhi* is a plant like clover, which bears a yellow flower. It grows wild among the rabi crops, and in parts is cultivated. There is a species with white flowers which is said to give colic to cattle. *Jaudal*, or *phitkanak*, is a plant that grows among wheat and barley, and until seed-time it cannot be distinguished from them. The seed, however, is small and tasteless; while green, it is good fodder. *Dodhak* is a small milky plant which provides fodder for sheep and goats only. The *buta* (Saccharum sara) is often wrongly called *sarkana* and *munjkana*, which are really names of parts of the plant. This is almost as useful as the date-palm. The wavy leaves at the base of the plant are called *sar*, and, besides being good fodder, are used for mats and thatch. The tall stem is called *kanan*, and the upper part of the stem *tili*. *Kanan* is used for making baskets, chairs, walls of huts, screens, roofs, rafters and fences. The *tili* is used for making baskets and besoms. The sheath of the *tili* is *munj*, and is used for making ropes. The flowers are called *bullu*, and are given to cows and buffaloes to increase and enrich their milk, and are hence called *makkhan sawai*, or " butter one and a quarter more." *Kan* (Saccharum spontaneum) is very abundant in the low ground near the rivers which are annually inundated and in the islands. It furnishes first-rate fodder for buffaloes, and pens are made from the stem. *Khawi* is a grass which has a faint lemon smell; it is found in the Thal. *Dila* is a rush which grows in marshy grounds. It is inferior fodder. *Murak* is another marsh plant; it is soft and tender, and much esteemed as fodder. *Jusag* is a plant which is used as fodder and also as a pot-herb; it is said to soften other vege-

tables and meat which are cooked with it. *Lana* is used only as fodder for camels. *Sajji* is not made from it here. Camel-thorn, here called *jawanh*, or *jawasa*, is common. The following plants, which are mere weeds, are also used as fodder: *kharpal*, *munjhar*, *savri*, *mainan*, *bhukan* or *bukan*, *batthun* or *bathun*, *pit papra*, *sain*, *phit-sain*, *palwahan*, *patrali*, *phuli*, *sayahchar*, *ludri*, *budia*, *sit*, *trangar*, *kamali-buti*, *pochki*, *naun* and *hemcha*. In chapter II-A there is a further reference to the fodder plants of the Thal.

Plants other than Fodder Plants.

The following are the most common plants other than fodder plants. The line between fodder and other plants is not yet very clear for camels and goats will eat anything. *Khip* (Orthanthera biminiea) is a leafless shrub which grows chiefly in the Thal. It is not put to any use except for covering rafters on roofs. It is very inflammable. *Bhakhra*, or *gokhru* (Tribules terrestris), grows generally in sandy soils; it has a caltrop-shaped seed-vessel. It is used for gonorrhœa. *Puth kanda*, literally "inverted thorn" (Achyranthes aspera), is common in Sanawan. The leaves are dried, made into powder and used as an emetic. *Dhamanh* (Fagonia cretica) is found in the Thal during summer. Camels eat it, and medicine is prepared from it to check impurity of the blood (*malai*). *Karvilun* (Capparis horrida)—the fruit ripens in March and April, and is made into pickle; leaves are made into fomentation for sore throat. *Ratkan* grows in summer on the banks of the canals; it is used in diseases of horses. *Kaurtumman*, or the colocynth gourd, grows in the Thal and in sandy ground during June and July. It is a favourite medicine for horses. *Kanderi*—a plant with thorns on the stem, leaf stalks, and leaves, with a fruit like potato apples. *Phesak lani* (Suoeda fruticosa) is eaten by camels, and medicine made of it is used by women. *Hurmal* (Peganum harmala) grows everywhere. The seeds ripen in August; mixed with bran and salt and burnt, they are used for driving away spirits (*jinns*) and averting the evil eye and the machinations of enemies! *Lut* is a parasitical creeper of a light-green colour that grows on the upper branches of trees. It kills the tree to which it attaches itself. *Bhuen phor*, literally the "earth-splitter" (Philipœr calatropidis)—this curious plant is very common. In February and March its stem, about an inch thick, bursts through the ground, sending fissures all round, and grows from 6 inches to a foot high, and is covered with handsome wax-like flowers. The whole plant is very juicy. It is given to goats to increase their milk, and, when bruised, is applied to boils. It is also given to children for impurity of blood. *Situn* (Boncerosia edulis), a kind of wild asparagus—after summer rains it springs up at the roots of the *jal*, *jand*, *karita* and *phog* trees. It is eaten with salt, and also cooked as a

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vegetable. *Chibhar* is a small gourd that grows wild among the kharif crops. The fruit is eaten raw and cooked with meat, on which it is supposed to have a softening effect. *Jati musag*, literally the "Jat's tooth-brush," is a small plant with pink flowers that grows on land subject to inundation. *Bhangra* is of two kinds: one kind has blue flowers, of which women make collyrium; the other kind grows on the banks of water-courses, and, when reduced to ashes, is used for curing galls in bullocks. *Uthpera*, literally "camels' foot-prints," is a plant with broad leaves that grows in the Thal. The leaves are dried, pounded and boiled, and used internally for gonorrhœa. *Fatokar* grows in the hot weather. Its leaves are used as a hair restorer. and also for boils. *Bhukal*, literally "buds of the earth," is a plant very like an onion which comes up with the rabi crops. It bears a small black seed which ripens just before the wheat harvest. In times of scarcity the seeds are ground and made into black bread of repulsive appearance, which is very indigestible, but is eaten nevertheless. *Bui* and *barari* are universal in the sandy parts of the waste. They are used for fuel mainly. *Khumbhi*, mushrooms, are common in the Thal after rain in the hot weather. Although usually eaten fresh, they are also dried for future consumption, and preserve their flavour wonderfully well. *Pad bahera* is the name for fungi of all sorts. Other plants less known are—

Gorakhpan, dandeli, tandula, mariri, reshan, van veri, sijh ubhara, or sunrise, *salara, kauri valh*, or bitter creeper, *pipli, kalaich buti, nilbuti*, or wild indigo, *gidar war*, or wild cotton, *angair, kanjun, bo phalli, damanh, harmal, batu* and *pippa*.

Scenery.

The flora described above, the Suleman range on the west, the rivers, *dhands*, etc., result in scenery which is varied, and in places very picturesque. Even the Thal has its charms.

Fauna— Wild Aminals.

Tigers were seen in the dense jungles on the banks of the Indus towards the south of the district in 1879, but have since disappeared. Wolves, here called *nahar*, are found throughout the district, and wild pig is extremely common, especially on the banks of the rivers. Wild boars are called *mirhon*, and wild sows *bhundin*. The only deer in the district are *parha*, or hog-deer, and the ravine deer, here called *haran* or *chinkara*. Jackals and foxes are common. Hare are fairly numerous; but, owing to the annual inundations of the river, they are only to be found in the drier and higher regions; in the Thal they are not common. Otters are found in the south of the district. Hedgehogs, here called *jah*, are common. Mongoose, called *naulun*, are very common. Pig

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and hog-deer are occasionally taken by nets of *munj* rope supported on movable poles with side-strings fastened to bushes. The net is called *wanvar*. There are hardly ever any deaths from wild beasts.

Birds.

The following birds are found in the district:—

Dove	The male is *gera*, the female *tuttin*.
Sparrow	*Chiri*.
Hoopoe	*Hudhud*.
Woodpecker	*Drakhan pakkhi*, literally "carpenter-bird." The hoopoe is often called by this name.
Peewit	*Tatiri*.
Warty-headed ibis	*Kanwni*.
Tern	*Karahi*.
Sandpiper	*Tatuha*.
Pelican	*Pain*. There is a larger kind called *sohal pain*.
Indian snake-bird	*Siri*.
Crow	*Kan*.
Lark	*Chandur*.
Kite	*Hill*, or *chil*.
Vulture	*Gijh*.
Pharaoh's chicken	*Sunda*.
Blue jay	*Chan*. Held sacred by Hindus.
Magpie	*Matah*.
Straited bush babbler ..	*Herha*.
Bengal babbler	*Dad herha*.
Parrot	*Tota*.
Butcher-bird or shrike ..	*Malala*. Both the grey-backed and red-backed species are found.
Kingcrow	*Kal karachchhi*. This bird is venerated by Muhammadans because it brought water to Imam Hussain when he was martyred, and also on account of its habits of early rising.
Swallow	*Ababil*.
Kingfisher..	*Toba*, literally "diver."
Egret and paddy-bird ..	*Bagla* and *bag*.
Coot	*Ari*.
Blue coot	*Kulang*. Water-rail is *khanauti*.
Indian oriole	*Hariawal*.
Amadavat	*Lali*, and *sharak lali*. The last name literally means "*lali*, weighing a *chatak*."
Spoonbill	*Doi bag*, literally "spoon-heron."
Heron	*Sanh*.
Raven	*Dodar kan* and *ruhela kan*.
Owl, owlet and goat-sucker ..	*Ghugh*, *ullun*, *chibri* and *huk*.

The other raptores are—

Kurl	A large hawk found near water. It lives on fish and wild-fowl.
Jurra, male	*Baz*, female.
Bashin, male	*Basha*, female.
Chipwal, male	*Shikra*, female.
Laghar	*Shihin*.
Tumtri	*Charag* (male *chargela*); and
Chuhemar	*Bahri*.

which are all hawks of different kinds; and cormorant, *khambu*.

Bittern is here called *nardur*. The grebe is *tuhaya*.

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The birds for which the English equivalent is doubtful are—

Karwanak, also called *saukin* (known as a stone-plover, but really a lapwing).	Lives on the banks of rivers and in sandy deserts.
Nil bulai	.. Lives on the banks of rivers and near water; a kind of water-rail apparently.
Dhing	.. Very large crane-like birds which congregate in flocks during the cold season.
Badhing	.. Very large crane-like birds which congregate in flocks during the cold season.
Bulbul	.. These are common to all India, and are great pests to the gardener; Indian nightingale.
Phiddi	.. A small black wagtail with spots.
Dhuri	.. A small ash-coloured bird with a long tail.
Chhapaki	.. An ash-coloured bird the size of a dove.
Tilyar or *vahye* ..	.. The *tilyar* is probably a starling, and the *vahye*, though differing in colour, is like a starling in its flight. Both are great enemies to the farmer, and are very destructive to dates. Destroys locusts.
Trakla	.. This is apparently the green pin-tailed fly-catcher. It is named *trakla* from a fancied resemblance to the spindle, *trakla*, of a spinning-wheel.

The game birds usually shot are—

(1) The florican (*Houbara macqueeni*) or *talur*, are commonly met with; (2) Sand grouse (*bhatittar* or *khatakkar*), both the imperial and common small species; (3) Partridge, *tittar*, black (*mushki*) and grey (*gora*). [The female black partridge is called *missi*. Very fair sport may be obtained in the *lai* and grass jungle round plots of cultivation]; (4) Quails arrive in great numbers in March and September, but soon disappear; (5) The common, the jack and the painted snipes, *chaha*; (6) The wild goose, *mangh*; (7) Mallard, *nirgi*; (8) The spotted-billed duck, *hanjhal*; (9) Gadwall duck, *buar*; (10) Shoveller duck, *gena*; (11) The marble-backed duck, *bhurru*; (12) The Brahminy duck, *chakwa*; (13) The common teal, *karara*; (14) The sheldrake, or burrow-duck, *dachi*; (15) The white-eyed duck, *ruhari*; and (16) The whistling teal.

The lesser bustard is not rare. The great bustard used to be seen, but seldom, if ever, visits the Thal now. Kunj and plover are common in the lowlands near the rivers. The plover is called *puliani*, "the weaveress," from its gait. It makes a short rapid run, and then stops like a weaveress when preparing her thread. Pigeons are found all over the district. Quail and water-fowl are netted. "Cupid and Cartridges," by O'Brien and Bolster (William Blackwood & Sons), gives an interesting account of *shikar* in the district.

[F]ishing.

Fishing provides an industry for a fair number of people, and food for many. The fishing tribes—Jhabels, Kihals and Mors—live almost entirely by it, and other people take to

fishing for support as well as amusement. The gear used is—

The drag-net called *chheku jal* or *ghawa*. This is made of several nets fastened together;

Nara.—This is a stationary net which is kept in a perpendicular position by means of floats made of reeds;

The cast-net, *satu jal;*

The *kur* is a beehive-shaped frame of wood lined with a net. It is jammed to the bottom of shallow water, and secures whatever fish are inside;

Kara is an eight-sided cage surrounded with netting;

Sangola, a spear like that carried by chaukidars. This is used also for spearing tortoises; and

Tarki, a sort of raft.

Fish.

Fish are also caught with the hook and line in deep water and in the rivers. The rivers abound in fish, but few are caught in the main stream, except the *khagga*, a siluroid fish which takes a bait readily. The ordinary Indian tackle is too weak and too small to be of much use in the large and rapid channels of the rivers. The fish-eating crocodiles (Gavialis gangeticus), here called *sinsar*, are found in both rivers and are common in the Indus. The snub-nosed crocodile (Crocodilus palustris) is common, but it shows itself less and prefers the still water of the *dhands*. Tortoises are found both in the rivers and in the *dhands*. The porpoise (Platanista gangetica), here called *bulhin*, is often seen in the main stream of the rivers. The fish are of very excellent quality. The species are not very numerous. The following is believed to be a complete list:—

Kanghi (Ambassis baculis).—This is the only member of the perch family found in the district;

Of the snake-headed fishes two specimens are found: *Chitra* (Ophiocephalus marulius).—This is the *sahol* or *saul* of the Punjab, and *Guddu* or *Garai* (Ophiocephalus punctatus). The *chitra* attains to 3 feet in length, the *guddu* about 8 inches. They have few bones, but are insipid eating;

The spiny eel has two representatives—*Goj* (Mastacemblus armatus); *Gujira* (Mastacemblus pancalus). Both are good eating.

The siluridæ have the ten representatives given below, and probably more. They are scaleless and good eating, but

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are, as a rule, filthy feeders. They will take a baited hook or a spoon bait readily: (1) *Singhara* (Macrones aor); (2) *Malhir* (Macrones tangara); (3) *Khagar* (Macrones cavasius); (4) *Khagga*, also called *Trikanda* (Macrones careio); (5) *Ahi* (Pseudotropius atherinœdes); (6) *Dhungna* (Pseudotropius garua); (7) *Dimman* (Callichrous cheokra); (8) *Ghoghun* (Callichrous bimaculatus); (9) *Malli* (Wallago attu), the *Boali* of the Punjab; and (10) *Luankh* (Saccobranchus fossilis), or *singi*, a very ugly fish with eight long thick barbels; each pectoral has a poisonous spine which is said to cause a wound as painful as a scorpion's sting.

The carp family has the ten representatives given below, and probably more. They are all excellent eating, and clean feeders: (1) *Dambhra* (Labeo rohita); the *Rahu* of the Punjab: this is the best for eating; the *Thaila* and *Mori* rank next; (2) *Dahi* (Labeo calbasu); (3) *Sarihan* (Labeo cursa); (4) *Thaila* (Catla buchanani); (5) *Mori* or *Moraki* (Cirrhina mrigala); (6) *Sohnin* (Cirrhina reba); (7) *Popri* or *Kharnin* (Barbus sarana); (8) *Drura* (Barbus chrysopterus); (9) *Dara* (Rohtee cotio); and (10) *Parahi* (Chela gora).

The herring family has only one representative, the *Chhuchi* (clupehchapra).

The notopteridæ have only two species: (1) *Pari* or *Batti* (Notopterus chitala); it has a number of eye-like marks near its tail; and (2) *Kani pari* or *Kani batti* (Notopterus kapirat), literally the "one-eyed *pari* or *batti*," so called because the eye-like spots near the tail are wanting. Both the notopteri are full of bone and tasteless.

Besides the fish before mentioned, there is the *Shahingar*, a small scaleless fish with five dorsal rays headed by a spine, ten ventral rays, pectoral fins headed by a spine, four barbels, adipose fin, back yellow with black stripes, whence comes its name *Shahingar*, or tiger-fish, from *shinh*, a tiger. This probably is one of the Glyptosternum genus. The following fish complete the list: (1) *Chhalli;* (2) *Lakhi gogun;* (3) *Tukar machi;* (4) *Gula;* (5) *Patol;* (6) *Khitha;* and (7) *Makhni*. The *Gangat* is a large prawn, and *Jhinga* is a shrimp.

It may be mentioned that the residents of the district generally cannot be trusted to give the names of the birds or fish correctly. To get correct information, the fishing and sporting tribes—Jhabels, Kihals, Mors and Mahtams—must be consulted.

Government derives about Rs. 4,000 per annum revenue from the fisheries, which are auctioned annually, and licenses granted by the Deputy Commissioner. Certain rules have been framed by Government for the district. Fishing is generally controlled by the Warden of Fisheries, but nothing is being done yet beyond regulating the fishing.

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Reptiles.

The reptiles of the district are as follows: River-tortoises, which are eaten by the Kihals, Mors, Mahtams and Chuhras, but not by other tribes. Among the sauria are—

(1) The snub-nosed crocodile (Crocodilus palustris), here called *baghun;*

(2) The fish-eating crocodile (Gavialis gangeticus), here called *sinsar*. The tribes before mentioned eat the flesh of these;

(3) The *goh;*

(4) The *guhira*. This is said to be the young of the *goh*, but it seems to be a distinct species;

(5) The *sahnan*, a lizard which frequents sandy grounds;

(6) *Kirari*, the common house lizard;

(7) *Korh kirari*, literally the "leprous lizard." It is apparently a kind of chameleon;

(8) *Khan* is a black-and-white lizard with a bluish tinge. There are all sorts of fables about *khans*. It is really perfectly harmless; and

(9) *Galei* is larger than the house lizard, and is supposed to be harmless.

Frogs, the male called *dedar* and the female *did*, abound everywhere.

Snakes.

Snakes are very common. The following are the chief kinds:—

There are several varieties of cobras. The names depend on the colours. The local names of 12 varieties are given below; it should be remembered that *bishyar*, *mushki* and *kala* all men black; *chuhra* also means black because sweepers (*chuhra*) are black-complexioned: (1) *Bishyar;* (2) *Mushki;* (3) *Kala;* (4) *Mushki kala;* (5) *Chuhra;* (6) *Chuhra Mushki;* (7) *Mushki titara*, partridge black; (8) *Mushki tilyar*, starling black; (9) *Moti bind*, literally "pearl-drops"; (10) *Mushki phanyar*, black-hooded, from Sanskrit *phan*, a snake's hood; (11) *Peti bagga*, white-bellied; and (12) *Gal kala*, black-throated. The *bishyar* has no hood, and is therefore one of the elapidæ. All the other varieties appear to have hoods. The *bishyar* is believed to be the female of the *mushki tilyar*. Other poisonous kinds are the *sangchur*, literally "throttler," also called *guraha*. This is the Ophiophagus elaps. The most common poisonous snake is the *korkind* or *kurandi*, also called *jalebi;* these three names denote the double coil in which it lies. It is also called *khapra* and *khar peti* from the hardness of its skin. This is the Echis carinata (saw-scaled viper). It has the habit of lying on the roads after sunset, and, being brownish in colour, is difficult

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to see. It has only recently been included in the list of poisonous snakes in the district for the destruction of which rewards are paid. About 60 or 70 persons die every year of snake-bite —the majority being bitten by this snake. The *charhoa*, literally "washerman," is a harmless snake. Other snakes are *padam, vais, do-muhan*, or the snake with a head at each end. *Tir mar* or *ghore dangan, udna* or *jatala;* this is said to be a hairy snake. *Salang vasak*, also called *sah pivna*, the "breath-drinker," because it is said to drink the breath of sleeping persons!

Insects.

The insects which force themselves on one's notice are: (1) *Makri* or locust; occasionally, as in 1929, these do great damage; (2) *Tiddi*, a grasshopper most destructive to young crops; (3) *Danwar*, spider; (4) *Vathunhan*, scorpion; (5) *Dembhun*, wasp, hornet; (6) *Labana*, an earth cricket with formidable jaws, that bites severely; it is called *labana*, the name of a tribe of industrious Sikh colonists, obviously owing to its hardihood; (7) *Kankoil*, centipede; (8) *Popat*, butterfly; and (9) Bees, here called *makkhi*, produce good honey (*makhi*) in April and October.

Climate.

The Thal is extremely dry all the year round, and the health of that tract is particularly good, in spite of the fact that the water in many of the wells is brackish. The other parts of the district, whether flooded from the rivers or irrigated by inundation canals, are less dry. There is plenty of moisture on the ground and in the air. By the end of the inundation season, *i.e.*, by September, the moisture reaches the maximum and there is much malaria, the tracts best inundated suffering most. The heat from May to September is intense, but a cool breeze springs up regularly at about 11 P.M. from the middle of August onwards and makes the nights quite endurable. In the whole summer there are only about a dozen nights when there is not a breath of air. There is no electricity. Ordinary punkhas are used. In the Thal, however, the fiery heat is intolerable, and hot winds, *lu*, increase the discomfort and wither the crops. The months of November to February are quite cold, and severe frosts occur in some years, causing severe injury to cotton, mangoes and sugarcane. This happened in 1929, when mango trees throughout the district suffered badly. The hot weather is oppressive on the whole, but the winter is very bracing. The northern half of the district is quite healthy, and, with a few exceptions, the officers posted to the district have not had much to complain of. The Indians do not, however, escape the effects of malaria, and almost every person has at least one or two attacks of fever in the autumn. Diseases of the eyes and skin are also common, due obviously to dirty habits and to bathing in dirty water. Venereal diseases prevail to a shocking extent. The water-supply of the district is generally very good. Hand-pumps are now common.

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Temperature.

The temperature in the hottest days rises to 98° inside carefully closed rooms and sometimes even to 100°. In the verandah it ranges from 110° to 115°. Under shade, outside the houses, it is known to have risen as high at times as 120°. No record is, however, kept in the district.

Rainfall.

The rainfall of the district decreases from north to south, and there is a tendency for the storms to follow the rivers. Rain seldom falls without thunder. In April hail-storms are frequent. The rainfall is most uncertain, and varying in amount, and still more in distribution, from year to year. The table below shows the average rainfall in each tahsil for the years 1910 to 1920, but the range between the maxima and minima is too great for the average to have any value :—

—	Leiah.	Kot Adu.	Muzaffargarh.	Alipur.
June to September ..	6·19	6·85	4·93	4·13
October to December..	0·50	0·43	0·41	0·26
January to May ..	2·81	2·08	1·85	1·48
Total ..	9·50	9·36	7·19	5·87

In 1892-93 the Sanawan (now Kot Adu) Tahsil received 14 inches, Muzaffargarh 10 inches and Alipur 17 inches In 1901-02 these tahsils received less than 2 inches each. In 1923-24 the Muzaffargarh Tahsil received nearly 19 inches, Leiah 11·24 inches, Kot Adu 9·23 inches and Alipur 5·57 inches. There were about 3 inches in each tahsil in 1927-28, but in 1928-29 Leiah received nearly 15 inches, Kot Adu nearly 14 inches, Muzaffargarh nearly 13 inches and Alipur nearly 8 inches.

Tables 3, 4 and 5 in volume B contain rainfall figures for each year.

Earthquakes, Cyclones and Floods.

Earthquakes are felt now and again, but they are not violent and have never caused any considerable destruction. Nor have there been any notable cyclones. Dust-storms are common during the months of May and June. They sometimes begin earlier and last longer. They are unusually severe sometimes, the darkness lasting for hours.

The level of the Indus being higher than that of the Chenab, and the slope of the lands being generally from west to east, the tendency of the Indus is always to spread into the

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district, and it made several inroads into the interior until the construction of the Sanawan embankment in 1874, which has been kept up since and improved. Other *bunds* have also been made. In years like 1889 and 1894, when the gauge at Attock registered 51 feet, no injury was done outside the riverain tract. In 1924, when the rainfall was heavy, the gauge at Attock reached 56 feet, and the Sanawan *bund* was breached near Kot Sultan, and much damage was done in the Kot Adu and Muzaffargarh Tahsils, the water eventually reaching the Chenab below Khangarh and Rohillanwali. In 1928 there was an alarm about the Shayok dam, but it proved to be false. In 1929, however, the district suffered once again. Heavy rain in the district and the Dera Ghazi Khan District, etc., caused an abnormal rise in the Indus, which breached the Sanawan *bund* near Dholewala. The flood subsided quickly, and not much damage was done. Almost immediately the Shayok dam burst, and the gauge at Attock reached 56 feet, but this flood did no damage as the Indus was low at the time. But heavy rain once more caused a record flood in the Indus, the gauge at Attock reaching 66·5 feet at the end of August. The Dera Ghazi Khan gauge rose to 11·5 feet. The railway line was breached in several places, the section between Kot Sultan and Leiah suffering very badly. The Sanawan *bund* and other *bunds* on the Indus side were overtopped and breached in several places, in spite of every effort to strengthen them. Damage to houses, crops and cattle was very considerable, but fortunately the loss of human life was very small. This was mainly due to warnings received well in advance, and evacuation in many cases by force. A company of Sappers and Miners, with pontoon boats, was sent to the district and did good work in the railway area. The water took the same course as in 1924. So far as the Indus is concerned, a gauge reading of more than 55 feet at Attock should be treated as dangerous. The town of Muzaffargarh is protected from the Indus by the dorsal ridge of the Thal which runs past it down to Kinjhar in the shape of a wedge. It has, however, suffered at times from destructive floods in the Chenab (Ravi, Chenab and Jhelum combined), which in 1893 broke through the barriers of the embankment and flooded the whole countryside along its bank, including the town of Muzaffargarh, when almost every building was damaged. Indeed during the flood everyone had to take shelter in the town, which is situated fairly high, and the police station there was the rendezvous of all officials who could reach there. The district kutchery alone stood the flood, although there was a foot of water running all round it. This memorable flood washed a great deal of saltpetre down from the south of the Jhang District and the Rangpur side of the Muzaffargarh Tahsil, and spoilt the best sugarcane and cotton-growing lands in the Thal. This

was the year in which great damage was done by extraordinary floods in the Jhelum River in Kashmir. In 1903 and 1928, when the floods were again destructive in Kashmir, the Chenab began to cut into the headworks of the Ganeshwah and the Langar Serai *bunds*, and there was fear of the water forcing itself through the embankments and flooding Muzaffargarh town. The danger was, however, successfully warded off. In 1929 there was a record flood in the Chenab at the same time as the Indus was in flood, but once more the *bunds* held with the help of willing workers, though there was grave anxiety all the while. The Chenab West Bank gauge in 1928 was 18·8 feet, and in 1929 it was 20 feet.

SECTION B.—HISTORY.

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HISTORY.

No early History of District.

Nothing is known of the early history of the district. Alexander the Great, according to Arrian, in about 327 B.C. sailed down the Jhelum to its junction with the Indus, while his land forces marched in two bodies on either side of the river. Craterus, who was on the right bank, may have skirted parts of the present district, but there is no evidence of this, even in the Thal, which is admirably suited for the preservation of antiquarian remains. But the very course of the rivers at his time is a matter for speculation so far as this district is concerned.

District first united under Sikhs.

The Muzaffargarh District, as a whole, had no complete history until it was united under Diwan Sawan Mal, Governor of Multan, under the Sikhs. The history of the neighbouring Governments is, however, relevant because it is by it alone that is learned the origin of the tribes now living in the district, and the order in which they occupied it. The contemporary history will therefore be given as briefly as possible, more for the sake of ready reference when the tribes are described, than in order to record events which had their central interest in the district.

The Hindu Dynasties.

From the earliest times the district followed the fortunes of the kingdom of Sindh. The Hindu dynasties of the Rais and of the Brahmins ruled over a Jat population who are a branch of the Kshatriya or Rajput race, and, for some reason not known, had been excluded from fellowship. These Rajputs, who may be called aboriginal, are the ancestors of the Jats, who form about two-thirds of the population, and all the other tribes are subsequent arrivals.

The Arab Conquerors—The Sumras and the Summas.

The first Arab conquerors held Sindh and Multan from A.D. 711 to A.D. 750, when they were expelled by a Rajput tribe called Sumra, whose representatives are still found in the district. In A.D. 1351 the Sumras were expelled by the Summas, another Rajput tribe, descendants of whom are to traced among the Unnars of the Alipur Tahsil. The Summa rulers all bore the title of *Jam*. To this day *Jam* is used as a title of respect to Muhammadans who have a Sindhian origin. It was during the rule of these Rajput tribes in Sindh and Multan that an immigration of Rajputs from Hindustan took place. It is to this that is due the presence in the district of such tribes as the Sials, Gurahas, Bhattis and Chhajras.

The Langah Dynasty of Multan.

The next event bearing on the history of this district is the establishment of the Langah dynasty in Multan. It ruled from A.D. 1445 to A.D. 1526. There are still Langahs in the district, and it was during the Langah rule that the independent kingdom of Sitpur was established by the Nahars in

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what is now the Alipur Tahsil. It was during this dynasty that the Biloches first emerged from the Suleman mountains and occupied the country on the left bank of the Indus.

Division of District into four Governments.

The establishment of the independent kingdom of Sitpur was the starting-point of a connected history of the district. Henceforward the district was occupied by four Governments. In the southern angle there was the Government of Sitpur held first by the Nahar family, then by the Makhdum of Sitpur and lastly by the Nawabs of Bahawalpur. The west central part of the district, opposite Dera Ghazi Khan, was governed by the rulers of Dera Ghazi Khan; first Mirrani Biloches, then Gujars and Kalhoras, then by various governors directly appointed by the Durrani kings of Kabul and finally by the Nawabs of Bahawalpur. The east central part of the district lying on the right bank of the Chenab opposite Multan was nominally ruled by the Multan governors. The northern part of the district, including the Thal, after passing through a stage of anarchy, became subject to the governors of Mankera, who were locally known as nawabs of the Thal.

The First Government in Sitpur The Nahars, Biloches and Makhdums.

The dynasty that established the Sitpur kingdom was the Nahar. In A.D. 1455 (A.H. 854), when Bahlol Khan Lodhi, who had been Governor of Multan, became King of Delhi, he granted the country lying between the Indus, which then joined the Chenab at Uch, and the Suleman range, south of a line drawn from Harand to Uch and north of Shikarpur in Sindh, to his relation Islam Khan Lodhi. This tract comprised what is now the southern part of the Alipur Tahsil of the district, the southern part of the Dera Ghazi Khan District and the northern part of Sindh. Islam Khan or his descendants took the title of Nahar. Islam Khan's grandsons, Kasim Khan, Salam Khan and Tahir Khan, quarrelled and divided the country among themselves. The southern part of the present Alipur Tahsil, the chief town of which was then Sitpur, fell to Tahir Khan. He established his rule there and died. There were 27 generations of the Nahar family. The last of the Nahars was Bakhshan Khan, who was jamadar of chaprasis in the Alipur Tahsil, and who enjoyed a small allowance from Government for looking after the family tombs. After him the incumbents of the office were widows. One of the Nahars built a fine tomb in his lifetime, which still exists. His name was Tahir Khan, named *sakhi*, or the liberal. Another, named Ali Khan, founded Alipur. No other memorial of the Nahars exists.

At the end of the fifteenth century the Biloches* began to issue from the hills, and occupied the country on the left bank of the Indus, from Sitpur to Kot Karor in the Leiah Tahsil.

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*See under "The Fourth Government" for details.

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In A.D. 1484 (A.H. 887) Haji Khan, a Mirrani Biloch, founded Dera Ghazi Khan and established a dynasty, the rulers of which alternately bore the titles of Haji Khan and Ghazi Khan.* These chiefs expelled the Nahars from the south of the Dera Ghazi Khan District, and pressed the Sitpur Nahars very hard. Treachery was at work at the very door of the Nahar. Sheikh Raju, Makhdum of Sitpur, who was a councellor of the Nahar, began to seize the country for himself. He did not entirely expel the Nahars, for, when he in his turn was overthrown by the Nawabs of Bahawalpur, parts of the country were still in possession of the Nahar. The greater part, however, of the south of the district was governed by the Makhdums in Sitpur. Until the inroads of Bahawalpur began, nothing is heard of the Nahar or of the Makhdum's government. The Nahars appear to have been indifferent rulers. They left no public works behind them except Tahir Khan's tomb, and in this rainless and flooded country it is the criterion of a good governor that he should make canals and protective embankments. The title of Nahar was given to them for their rapacity. Popular stories attest their want of wisdom. One winter night the jackals were howling round Sitpur. Tahir Khan, the Liberal, asked his wazir what made them howl. The wazir answered: "The cold." The Nahar ordered clothes to be made for them. Next night the jackals howled again, and the Nahar asked his wazir what they were howling for. The wazir replied: "They are invoking blessings on you for your liberality." The Makhdums of Sitpur, on the contrary, were good governors. They dug canals, extended cultivation, and one of them founded the town of Rajanpur in the Dera Ghazi Khan District.

The Nawabs of Bahawalpur take Sitpur.

The divided and weakened state of Sitpur attracted the attention of the Nawabs of Bahawalpur first at the beginning of the eighteenth century. They ruled over a part of the district for a hundred years, and left their mark on it by their public works and by introducing an organized revenue administration. The founder of the State of Bahawalpur was Sadik Muhammad Khan, son of Mullan Mubarak Khan, a distinguished resident of Shikarpur in Sindh. For some reason not ascertained, Sadik Muhammad Khan had to flee from the enmity of Nur Muhammad Kalhora, first of the Kalhora governors of Sindh. Sadik Muhammad Khan left Shikarpur in A.D. 1727 (A.H. 1140), and passed with his family and a body of followers through the Muzaffargarh District to Bet Dabli on the borders of the Leiah Tahsil. He was closely followed by the Sindh troops under Mir Shah Dad Khan. A skirmish took place in which the Sindhis were

*The village in which old Dera Ghazi Khan stood was hence known as Haji Ghazi.

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defeated. Then Sadik Muhammad Khan took refuge with the Makhdums of Uch, who sent him to Hayat Ullah Khan, Governor of Multan, with their recommendations. Hayat Ullah Khan granted him the district of Choudhry, south of the Sutlej, in *jagir*. Sadik Muhammad Khan distinguished himself as an extender of cultivation and a suppressor of robbers. His next promotion was the grant of the town and country of Farid, a robber chief whom he defeated and killed with his followers. In A.D. 1739 (A.H. 1152) Sadik Muhammad Khan obtained the title of nawab from Nadir Shah, and, in the anarchy following the invasion of Nadir Shah, he succeeded in seizing the country bounded by the Sutlej on the north, Bikaner on the east, Sindh on the south and the Indus on the west. Sadik Muhammad Khan was succeeded by his son Bahawal Khan, who founded the town of Bahawalpur, and who is known as Bahawal Khan the Great. It was in the time of his successor, Mubarak Khan, that the Nawabs of Bahawalpur first established themselves permanently in the district. In A.D. 1751 (A.H. 1164) Mubarak Khan seized the country about Mudwala, now a large village on the right bank of the Chenab between Shahr Sultan and Alipur, just opposite the junction of the Sutlej and Chenab, from the Nahars, and in the same year he took Bet Doma, a village and tract south of Sitpur, from Makhdum Sheikh Raju of Sitpur. Bahawal Khan II was the next nawab. In A.D. 1781 (A.H. 1194) he took the *pargana* of Jatoi from Makhdum Sheikh Raju of Sitpur. The Indian histories say that he took it on farm, but this is hardly credible. The nawab was the most powerful, and the Makhdums were growing weaker every day. The nawab had already taken part of the Makhdums' country by force, and was shortly to take the rest. It was about A.D. 1790 that the Indus left its old course which joined the Chenab close to Uch and took the bed it now occupies. The south of the district was thus laid open to the attacks of Bahawalpur, and the nawab at once availed himself of the opportunity. He took without a contest Alipur, Shahr Sultan, Sitpur and Khairpur; in short, the remainder of the Alipur Tahsil, from the Nahars and the Makhdum of Sitpur. He also proceeded to take the whole of the western and southern portions of the Muzaffargarh Tahsil from the rulers of Dera Ghazi Khan. He may be left in possession of the Alipur Tahsil for the present, and an account given of the remaining Governments that existed in the district.

The Second Government—Dera Ghazi Khan.

It has already been stated that the Biloches occupied the left bank of the Indus at the end of the fifteenth century, and that in A.D. 1484 Haji Khan founded Dera Ghazi Khan. His son was Ghazi Khan, and alternate Haji Khans and Ghazi Khans ruled until A.D. 1769 (A.H. 1183). As far as this district is concerned, they were good governors. They encouraged agriculture and excavated canals. One of them, said

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to be the first Ghazi Khan, founded the town of Kinjhar on the Indus. Mahmud Khan, Gujar, was the son of one Yusuf. He became wazir to the last Ghazi Khan, and, under the pretext of saving Government from conspirators, called in Ghulam Shah Kalhora, Governor of Sindh, who took Dera Ghazi Khan, arrested the last Ghazi Khan and carried him a prisoner to Sindh, where he died. Ghulam Shah left Mahmud Khan, Gujar, as Governor of Dera Ghazi Khan. He was maintained by the kings of Khurasan, and received from them a nawabship and the title of Jan Nasar Khan. Mahmud Khan, Gujar, ruled for 30 years, and was succeeded by his nephew Barkhurdar, who was superseded by governors sent direct from Khurasan. Mahmud Khan, Gujar, has a great reputation as a good governor in this district. He bought much land which Government owns to this day. He built the fort of Mahmud Kot. The Shiah Muhammadans in the district date from the time of the Kalhora invasion caused by Mahmud Khan, Gujar. After the Gujars, a number of governors were sent direct from Khurasan. Anarchy prevailed on the left bank of the Indus, which prepared the country for the invasion of Bahawal Khan II in 1791. Here may be left the Dera Ghazi Khan part of Muzaffargarh at the same point where Sitpur was left, and an account given of the part of the district that was subject to Multan. The history of the Biloches will, however, be reverted to in considering the fourth Government.

The Third Government—Multan.

The Langahs, already referred to, were expelled in A.D. 1529 by the Afghans, nominally acting on behalf of Babar, and in Akbar's reign Multan was incorporated in the Delhi empire as a *subah* or province. Of the sub-divisions of the Multan Province, the only two mentioned in the *Ain-i-Akbari* are Rangpur and Sitpur. Though it is known from general history that this district must have been sometimes subject to Delhi and sometimes to Khurasan, neither monarchy had much effect on its internal history, and the local chiefs carried on their public improvements and their little wars without interference from headquarters. Occasionally one of two rival competitors tried to strengthen his cause by obtaining a deed-of-grant from Delhi or Kabul. But a strong band of followers proved a better support than any *sanad* or *farman*. A favourite saying of the local historians, in describing the rise of some chief, who, if a settled Government had existed, would have been hanged, is—

Udhar Dilhi di sultanat men fatur;

Idhar shahan Kabul ki nazaron dur.

On that side anarchy in the Delhi kingdom;

On this side far from the eyes of the kings of Kabul.

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It is well therefore, as far as possible, to avoid notice of the nominally central Governments, and only mention extraneous history as far as it bears on the district. On this principle, Multan has no history connected with the district from the time of the Langahs to the establishment of the Multani Pathans, as they were called. These were a family of Saddozai Afghans, and a branch of the family to which Ahmad Shah, Taimur Shah, Zaman Shah and Shah Shuja, kings of Kabul, belonged. The first of the family who came to India was Hussain Khan, who held Rangpur in this district in *jagir* in the time of Aurangzeb. Zahid Khan was the first of the family who became Nawab of Multan. This was in A.D. 1738. Between the accession of Zahid Khan and that of his son Shuja Khan simple anarchy prevailed. Shuja Khan was invested with the government of Multan in A.D. 1767. He founded Shujabad in the Multan District opposite Khangarh. In his time the Bhangi Sikhs overran the country and occupied Multan, driving Shuja Khan to Shujabad. To this day the raids and cruelty of the Bhangi Sikhs live in the memory of the peasants living along the right bank of the Chenab. Shuja Khan was succeeded by his son Muzaffar Khan, who did not recover Multan till A.D. 1779, when he was reinstated by Taimur Shah, King of Kabul, who expelled the Sikhs and appointed Muzaffar Khan governor, with the title of nawab. Muzaffar Khan governed Multan till A.D. 1818 when it was besieged and taken by the Sikhs, and the nawab, with five of his sons, was killed. Muzaffar Khan's rule was a continued war. It is, however, only as a civil governor that he concerns the district, and it is surprising that he should have found time for making such improvements in the country on the right bank of the Chenab. The country in this district attached to Multan included the *talukas* of Rangpur, Muradabad, Muzaffargarh, Khangarh and Ghazanfargarh. Muzaffar Khan dug canals, made embankments and extended cultivation. He established many persons of his own tribe in this part, a fact to be remembered when reference is made to the tenure of the Multani Pathans. In A.D. 1794 he founded the fort and town of Muzaffargarh. His sister Khan Bibi built the fort and town of Khangarh, and his brother Ghazanfar Khan the fort and town of Ghazanfargarh.

The Fourth Government—The Thal Nawabs.

The fourth Government comprised what is now to a great extent the Kot Adu Tahsil, and the Leiah Tahsil, which was included in this district in recent years.

The history of this area is bound up with that of Bhakkar, Dera Ismail Khan and Dera Ghazi Khan, and requires separate recording.

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Leiah Tahsil Part of Mughal Empire till A.D. 1739.

Incorporated into Durani Kingdom in A.D. 1756.

Displacement of Old Ruling Families of Tract.

Formation of single Government under Nawab Muhammad Khan Saddozai.

The Leiah Tahsil continued to form part of the Mughal Empire until the invasion of Nadir Shah in A.D. 1738, when the country generally was plundered. In A.D. 1739 the country west of the Indus was surrendered by the emperor to Nadir Shah, and passed after his death to Ahmad Shah Abdali. The armies of Ahmad Shah marched repeatedly through the district, the cis-Indus portion of which was, with the rest of the Punjab, incorporated in A.D. 1756 in the Durrani kingdom. During the greater portion of the reign of Ahmad Shah no regular governors were appointed by the Kabul Government. The country was divided between the Hot and Jaskani chiefs and a number of nearly independent border tribes. Occasionally one of the king's sirdars marched through the country with an army, collecting in an irregular way, and often by force, the revenue that might have been assessed on the different *ilakas;* but little or no attention was paid to the internal administration of the country until quite the close of the reign of Ahmad Shah. Two or three years before his death Ahmad Shah deposed Nusrat Khan, the last of the Hot rulers of Dera; and after this the province of Dera Ismail Khan was governed by Kamr-ud-Din Khan and other governors appointed direct from Kabul. Some ten years later the descendants of Mahmud Khan, Gujar, who had succeeded the Mirranis in the government of Dera Ghazi Khan, were similarly displaced; and in A.D. 1786 the old Jaskani family of Leiah was driven out by Abdul Nabi, Serai, to whom their territories had been granted by the king in *jagir*. Towards the end of the century the whole of the present district on both sides of the river was consolidated into a single Government, under Nawab Muhammad Khan, Saddozai. Before, however, proceeding further it will be necessary to enter into some detail as to the history of the country under the old Biloch families.

Settlement of old Biloch Chiefs who founded Dera Ismail Khan and Dera Ghazi Khan, A.D. 1469.

References to the settlement of the first Biloch chiefs along the Indus are found in Ferishta, and in a Persian manuscript translated by Lieutenant Maclagan. The account given by the latter is that in 874 Hijri (A.D. 1469) Sultan Hussain, son of Kutab-ud-Din, obtained the government of Multan. He held the forts of Shor and Chuniewat (in the Jhang District) and of Kot Karor (Karor Lal Isan) and Dinkot (near Kalabagh). Soon after, Malik Suhrab, a Dodai Biloch, along with his son Ismail Khan, and Fatteh Khan and others of his tribe, arrived from Kech Mekran, and entered the service of Sultan Hussain. As the hill robbers were then becoming very troublesome in the province of Multan, Sultan Hussain rejoiced in the opportune arrival of Malik Suhrab, and assigned to him the country from the fort of Karor to Dinkot. "On this becoming known, many Biloches came from Kech Mekran to the service of Sultan. The lands, cultivated

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and waste, along the banks of the Indus were assigned to the Biloches, and the royal revenue began to increase. The old inhabitants of Dera Ghazi Khan and Multan relate that, after Suhrab's arrival, Haji Khan, with his son Ghazi Khan and many of their kindred and tribe, came from Kech Mekran to enter the service of Sultan. When the tracts along the Indus were in the hands of Malik Suhrab and Haji Khan, Malik Suhrab founded a dera named after Ismail Khan, and Haji Khan another with the name of Ghazi Khan." This account is confirmed, though in less detail, by the historian Ferishta.

Submission of these Biloch Chiefs to Emperor Sher Shah, A.D. 1540.

We next hear of these chiefs in A.D. 1540. In that year the Emperor Sher Shah visited Khushab and Bhera in the Shahpur District, and made arrangements for bringing into submission the south-western portions of the Punjab. Among other chiefs who then appeared and tendered their submission were Ismail Khan, Ghazi Khan and Fatteh Khan, Dodai Biloches. These were probably descendants of the men mentioned above, it being the custom in these families to have a common name by which the ruling chief for the time being was always known. Thus the Hot chiefs of Dera Ismail were always called Ismail Khans, while the Mirranis of Dera Ghazi were called Ghazi Khans and Haji Khans. The Biloches are spoken of in the accounts of that time as a barbarous and daring tribe that had long been settled in great numbers in the lower Punjab. Mr. Fryer in his Settlement Report of the Dera Ghazi Khan District mentions that the first Ghazi Khan is proved by the date on his tomb to have died in A.D. 1494. This would agree with the date in the manuscript quoted above, and would fix the latter half of the fifteenth century as the period when the main Biloch immigration took place. It would also allow sufficient time for the Biloch headmen to have become the recognized chiefs of the country by the time of Sher Shah's visit to Khushab in A.D. 1540. The history of these Biloch settlements is involved in a good deal of doubt and confusion caused in a great measure by the common custom of the local historians of assigning the founding of the principal towns and villages to the chiefs of the early settlers or their sons, from whom they are supposed to be named.

Main Facts to be gathered from Early History.

The main facts established appear to be that the early settlers were grouped under two leading families: the Ismail Khans and Ghazi Khans. Both of these were probably of one stock, *viz.*, Dodai Biloches; but this name Dodai disappears altogether, and in the local history Ghazi Khan's tribe is known as Mirrani Biloches, and Ismail Khan's as Hot Biloches. The Dodais are, according to the Biloches, a mixed tribe of Jat origin belonging to the Satha-Surma clan, now represented by the Surma of Leiah; Doda their founder married a Biloch wife. This tribe owned Dera Ghazi Khan before

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the Biloch irruption, and retained it, being assimilated by the Biloches. The Mirranis of Dera Ghazi Khan were Dodais; the Hots, on the contrary, were Biloches of pure blood. The Hots, according to Biloch tradition, are one of the five main branches into which the Biloches originally divided, *i.e.*, Rind, Lashari, Hot, Korai and Jatoi, who took their names from the four sons and the daughter of Mir Jalalan, the common ancestor. They could scarely therefore be a branch of the Dodai. The Governor of Multan seems to have assigned to these two families the land along the Indus, including both banks from its junction with the Chenab upwards. They first established themselves on the right bank, but by degrees threw out parties who took possession of the left bank as well. Very little is known about these Hot chiefs. They ruled continuously at Dera Ismail Khan from their first settlement till about A.D. 1770, when the last of them, Nusrat Khan, was deposed by King Ahmad Shah and taken as a prisoner to Kabul. In A.D. 1794 the government of the province was transferred to Muhammad Khan, Saddozai. The Hots now disappear from history.

Last Hot Chief Nusrat Khan displaced in A.D. 1770 by Ahmad Shah.

Rule of Mirrani Chiefs in Leiah.

The lands of the Leiah Tahsil along the southern boundary of the old Dera Ghazi Khan District appear to have been included in that section of the Indus valley which had been assigned to the Mirranis. These are said to have founded Kot Adu, Kot Sultan, Leiah and Naushera. Beyond Naushera the country probably at first belonged, by the terms of the original assignment, to the Hots. The towns above mentioned are said to have been founded about A.D. 1550 by the four sons of the Ghazi Khans. The eldest of these, Kamal Khan, the founder of Leiah, is said to have held a sort of supremacy over his brothers. It appears, however, that the Mirranis never held Leiah as an independent government. The Ghazi Khans held the Leiah Province as part of the Ghazi territory, much as the Hots of Dera held Darya Khan, neither of them having their headquarters in the cis-Indus tahsils. It was under these circumstances that the Jaskanis rose to power. Mir Chakar was a leading man among the earliest of the Biloch settlers of the Leiah Province. One of his descendants, Daud Khan, established himself as a robber chief in the jungles between Karor and Leiah, with headquarters at Wara Gish Kauri. He collected a large number of followers, and at the head of 500 horse he defied both the Mirranis of Dera Ghazi Khan and the Hots of Dera, on whose borders he was established. This was during the reign of Akbar in the latter half of the sixteenth century. Eventually the Emperor Akbar sent a force againt him, and he was killed and his band broken up. The tribe seems, however, to have again gathered together, and in the beginning of the seventeenth century Biloch Khan, their chief, received from the emperor a grant of the country from Mahmud Kot to Khola in Mianwali.

Rise of Jaskanis in latter half of Sixteenth Century.

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The Jaskanis do not appear, however, to have succeeded in getting possession of the portion of the tract granted lying to the north of Darya Khan. This was held by the Hots of Dera till the end of the eighteenth century. Probably the Jaskanis got nothing more than what they already possessed in fact, though perhaps in nominal subordination to the Hots and Mirranis. Henceforth they were independent, and the Mirranis lost their hold on the Leiah Province altogether. The Mirranis are said to have been finally ousted from Leiah about A.D. 1620. The leading Biloch tribes of the Bhakkar and Leiah Tahsils all claim descent from Biloch Khan. They are the Jaskanis, Mandranis, Mamdanis, Kandanis, Sarganis and Malianis. Biloch Khan was succeeded by Jasak Khan, Bhakkar Khan, Langar Khan and other chiefs of his family whose deeds are much exaggerated by local tradition. At the beginning of the seventeenth century the Jaskanis ruled over Bhakkar and Leiah, and across the Thal to the Chenab side. They seem to have been more or less at war with the Sials of Uch, and also came occasionally into contact with the Sikhs, who were then becoming a power in the Punjab. Biloch Khan, the Blind, one of the most famous of these Jaskanis, is said to have been killed in A.D. 1746 in a fight with Jhanda Singh and Ganda Singh, the Sikh leaders. It is probable that the real date of this event was somewhat later, and that this is probably the same Jhanda Singh who took Multan in A.D. 1772. In Cunningham's "History of the Sikhs" it is mentioned that, from A.D. 1772 to the retaking of Multan by the Kabul king, the Bhangi Sikhs were predominant in all the Southern Punjab, and that "they seem to have possessed Mankera as well as Multan, and to have levied exactions from Kalabagh downwards." Local tradition is against Mankera having been occupied by the Sikhs before its final capture by Ranjit Singh, and any expedition made by them in this direction can have been little more than a transitory raid. The history of these times is wrapped in much obscurity, and the accounts, being based only on tradition, are often contradictory.

Leading Jaskani Clans.

Extent of Jaskani Territory.

Under Biloch Khan, the Blind, they come into Conflict with Sikhs.

Fatteh Khan succeeded his father Biloch Khan, the Blind. Towards the end of his rule Nusrat Khan, Hot, of Dera Ismail Khan, crossed over to Bhakkar, and defeated Fatteh Khan's son, also named Nusrat, whom he took prisoner with him to Dera. Hassan Khan, Laskrani, who was wazir to Fatteh Khan, was ordered, on this, to attack Dera, but he made excuses; and an attempt of Nusrat's, Jaskani, mother to obtain his release led to her attempted violation by Nusrat Khan, Hot. Nusrat, Jaskani, was after this released, but both he and his father Fatteh Khan poisoned themselves through shame at the disgrace. The whole affair was a great scandal; and, as Nusrat Khan, Hot, bore a bad character as a

Fatteh Khan, Jaskani, A.D. 1746-70.

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tyrant and wine-bibber, the king, Ahmad Shah, who was desirous of tightening his hold over these semi-independent provinces, took advantage of the excuse to deprive him of his Government and to remove him as a prisoner to Kabul.

Wazir Hassan Khan, Laskrani, A.D 1770-79.

Meanwhile Hassan Khan, Laskrani, ruled the cis-Indus country in the name of Hayat Khan, the grandson of the former chief Fatteh Khan. Being desirous, however, to keep the Government in his own hands, he continued to keep Hayat Khan under close surveillance in the fort of Mankera even after the latter had attained his majority.

Hayat Khan, Jaskani, A.D. 1779-87.

Hayat Khan eventually managed to escape, and, getting together a party, he defeated Hassan Khan, and took him prisoner. Hassan Khan was soon afterwards murdered by some of Hayat Khan's attendants who were opposed to him. The Government of the Jaskanis, however, was now fast breaking up. The Sarganis, who were then a strong tribe and had been much pampered by Hayat Khan, took offence at an expedition fitted out by Hayat Khan against one Gul Muhammad of Uch, a holy individual who had been trying to establish his independence in the Chenab country. They accordingly attacked him treacherously and murdered him in his fort of Mankera in A.D. 1787.

Muhammad Khan, Jaskani, A.D. 1787-89.

After this the Sarganis, under their chief, Gula Khan, held out for some time against Muhammad Khan, the brother and successor of the deceased Hayat Khan. They were eventually defeated by the Jaskani party under the leadership of Diwan Ladda Ram, and their chief, Gula Khan, having been killed in this action, the Sarganis came to terms with Muhammad Khan, and were bought off with the Munda Shergarh country, which was granted to them in *jagir*.

Contemporary History of Dera Ghazi Khan.

Reference must now be made again to the affairs of Dera Ghazi Khan, whose chief had always exercised a good deal of influence, if not authority, over the Leiah portion of the Jaskani dominions. The Dera Ghazi history is mostly fragmentary and conflicting.

Conflict between Durrani Monarch and Kalhoras of Sindh.

It appears that all through the reign of Ahmad Shah, Abdali (A.D. 1747-73), the old Mirrani family was being gradually crushed out in the conflict between the Durrani king and the Kalhoras of Sindh; and during the whole of this time Mahmud Khan, Gujar, wazir under the last of the Ghazi Khans, was playing a double game for his own hand, sometimes on one side, sometimes on the other. When the country west of the Indus was ceded to Nadir Shah in A.D. 1739, he confirmed Mahmud Khan as governor; and Mahmud Khan seems also to have been continued by Ahmad Shah when he passed through Dera Ghazi Khan in A.D. 1748. All this time, however, the Kalhora rulers of Sindh claimed the sovereignty of the country; and, though Sindh itself was nominally a portion of the territory ceded to Kabul by the Emperor of Delhi, still the hold of the Kabul king, even over Dera Ghazi Khan, was weak

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and intermittent, and no revenue could be obtained from Sindh without hard fighting. The Kalhora princes at this time were Nur Muhammad, generally called Nur Muhammad, Serai, and after his death his son Ghulam Shah. This is the Nur Muhammad who fought with the Hots of Dera Ismail Khan, and is said by Captain Mackenzie to have governed Leiah and the Sindh-Sagar Doab to the Chenab. Captain Mackenzie writes that he pushed back the Jaskanis, and took possession as far as Darya Khan, but this does not agree with what seems to be the correct account. The Jaskanis continued to hold Leiah till A.D. 1787, while Darya Khan was never held by them at all. It is quite possible, however, that the Jaskani chiefs may, for a time prior to the invasion of Nadir Shah, have admitted the supremacy of the Kalhoras, who were then practically independent princes of a large and wealthy province, and might well have extended their authority over the smaller chiefs to the north. At Dera Ghazi Khan the last chiefs of the Mirrani line and Mahmud Khan, Gujar, who, though titularly their wazir, appears really to have been more powerful than his nominal masters, also held their Government in subordination to the Kalhoras; and, though the rule of the latter, after Ahmad Shah's accession, was rather intermittent, still they do not appear to have given up their claim to Dera Ghazi Khan till they were themselves driven out of Sindh. In A.D. 1758 the king sent a force under Kaura Mal, by whom the Sindh party was defeated in a fight near the town of Dera Ghazi. The Mirranis at this time were split up into rival factions who took opposite sides, and many of them after this event migrated to the neighbourhood of Leiah, where they are still found in considerable numbers. This Kaura Mal was afterwards Governor of Multan, and exercised a sort of authority under the king both over the Mirranis of Dera Ghazi and over the Jaskanis of Leiah. In A.D. 1769 Ghulam Shah, Kalhora, again attacked Dera Ghazi, and finally drove out the Mirranis. He put in Mahmud Khan, Gujar, as governor, and Mahmud Khan was succeeded by his nephew Barkhurdar, who was killed in A.D. 1779, when the province was put under governors appointed direct from Kabul. Neither Mahmud Khan, Gujar, nor Barkhurdar exercised any authority over Leiah and the cis-Indus country. They were purely governors of Dera Ghazi Khan. Ghulam Shah took Dera Ghazi in A.D. 1769; but in A.D. 1772 the Kalhoras were themselves driven out of Sindh by the Talpurs. This threw them entirely into the hands of the Kabul king, and they retired with their following to the Dera Ghazi Khan District, where they were granted considerable *jagirs;* hereforth they are known as Serais, instead of by their old name of Kalhoras. The Serais, finding themselves stranded at Dera Ghazi Khan with a large armed following, now commenced to look about for some territory in which to found a new principality. The

Mirranis driven out of Dera Ghazi Khan, A.D. 1758.

Mahmud Khan appointed Governor and succeeded by his Nephew.

Kalhoras driven out of Sindh, A.D. 1772.

Henceforth known as Serais.

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Under Abdul Nabi Serais drive Jaskanis out of Leiah.

Jaskani country, torn by internal faction, and attached by old tradition to the province of Dera Ghazi Khan, was close at hand, and in every way suited for the purpose. Armed therefore with a *sanad* from Taimur Shah, Abdul Nabi, Serai, brother of Ghulam Shah, entered into a league with the turbulent Sarganis, and in 1789 marched against Leiah. Muhammad Khan, Jaskani, was defeated, and fled to the Tiwana country and thence to Bahawalpur. The Nawab of Bahawalpur would probably have assisted him to recover his country, but Muhammad Khan, with the pride of a Biloch, insultingly refused to give the nawab a valuable work on hawking for which he had asked, and ended his days as a dependant on Hasad Khan, the Nutkani chief of Sagar. The present representatives of the Jaskani family are mentioned in the notes on leading families.* Thus ended the line of the Jaskani chiefs after a rule of more than 200 years. Abdul Nabi, Serai, held the Leiah Government only for three years. Complaints were made to the king of his tyrannical rule, while an appointment was wanted for Muhammad Khan, Saddozai. The latter was cousin to Muzaffar Khan, Nawab of Multan, for whom he had for some time acted as Governor of Multan to the satisfaction of the king. A *sanad* therefore was soon drawn out appointing Muhammad Khan Nawab and Governor of the Sindh-Sagar Doab from Kallur Kot to Mahmud Kot and from the Indus to the Chenab. Muhammad Khan had still to take possession, which was not to be done without fighting. He was met by Abdul Nabi near Leiah, and in the battle that ensued the Serais had at first the advantage, and the nawab's people fled. Nawab Muhammad Khan himself was ready to fly, saying: "What can a king do without an army?" but was stopped by his jamadar, who said: "Better die than fly." Eventually he rallied a part of his forces, and meanwhile some Labanas crept up through a *bhang* field and, attacking the Serais from behind, killed Muhammad Arif, the son of Abdul Nabi, who had been the soul of the fight, and the Serais, being disheartened, gave in. The Serais were allowed a day to remove their property and departed by boat to their own country to the south.†

Extinction of Jaskanis as Ruling Family, A.D. 1789. Abdul Nabi, Serai, held Leiah until A.D. 1792.

Appointment of Muhammad Khan, Saddozai, as Governor, A.D. 1792. He fought Abdul Nabi, Serai, near Leiah.

Defeat of Abdul Nabi.

* Section C of this chapter.

† Mr. Turker, from whose settlement report this account is taken, writes: "I have gone more into detail with regard to the contemporary history of the Dera Ghazi Khan District than would otherwise have been necessary because Captain Mackenzie, in his Settlement Report of the Leiah and Bhakkar Tahsils, gives his opinion that Ghulam Shah actually ruled in the Leiah country at a period antecedent to the ascendancy of the Jaskanis, and questions the correctness of the Dera Ghazi Khan histories on which my own account was based. All the intelligent natives, however, that I have questioned deny that the Serais twice ruled the country—once before, and once after, the Jaswani dynasty—as suggested by Captain Mackenzie."

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Prince Humayun, defeated by Zaman Shah, escaped to Leiah, 1794.

Meanwhile Taimur Shah had died in A.D. 1793. He was succeeded by Zaman Shah, whose title was, however, disputed by Prince Humayun. In A.D. 1794 Humayun made his second attempt to recover the kingdom from Zaman Shah, but was defeated and fled to Sagar, where Massu Khan, Nutkani, Chief of Sagar, assisted him and managed to smuggle him across the Dera Fatteh Khan ferry. He got to Leiah and stopped at a well, where curiosity was excited by his paying an *ashrafi* piece for a few sticks of sugarcane that he had taken. The news came to the ears of Nawab Muhammad Khan, who happened to be at Leiah at the time. The nawab suspected that it must be the Prince Humayun, for whose capture strict orders, with promises of untold rewards, had been issued by Zaman Shah. He accordingly collected some horsemen and pursued Humayun, whom he overtook at a well in the Thal some 15 miles from Leiah. Humayun had some 20 or 30 horsemen with him, who in desperation made a good fight. Humayun's young son was killed, and Humayun himself was taken prisoner and brought into Leiah. The nawab at once reported the capture of Humayun to the king, Zaman Shah, who sent orders that Humayun's eyes should be put out and his companions disembowelled. He also conferred on the nawab the name of Sarbiland Khan, and the government of Dera Ismail Khan, in addition to that which he already held. The orders of the king were carried out at Leiah. Among Humayun's attendants who suffered was a brother of Fatteh Khan, Barakzai. Humayun himself passed the rest of his life in confinement.

Nawab Muhammad Khan captured Prince, and rewarded with Governorship of Dera Ismail Khan.

The province of Dera, of which Muhammad Khan now became governor, extended from the Khasor range to the Sagar country, ruled over by the Nutkani chief. Nawab Muhammad Khan had his headquarters at Mankera and Bhakkar, and governed Dera by deputy. He left his mark on the north of the district by the canals which he dug. It is he that is referred to as the Nawab of the Thal. In A.D. 1815 he died. He left no son, and was succeeded by his son-in-law, Hafiz Ahmad Khan.*

Death of Nawab Muhammad Khan, A.D. 1815.

Muhammad Khan was undoubtedly a man of great character, and during his lifetime the Sikhs abstained from attacking the Leiah territories. Immediately on his death a demand for tribute was made on Hafiz Ahmad Khan. On his refusal, the forts of Khangarh and Mahmud Kot were occupied by the Sikhs, and great atrocities were perpetrated on the Muhammadan population of the neighbourhood until Hafiz

His Son-in-law Nawab Hafiz Ahmad Khan succeeds him, and comes into Conflict with Sikhs.

* In the old Gazetteers of the district it is stated that the Nawab died in 1815, leaving a daughter who was married to Hafiz Ahmad Khan, and their son Sher Muhammad Khan succeeded under the guardianship of his father. I have retained the account which appears in the Mianwali, Leiah and Dera Ismail Khan Gazetteers

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Ahmad Khan procured the withdrawal of the Sikh garrisons by the payment of a large sum of money, and thus recovered the forts, with part also of the plunder extorted. After this the Sikh Government continued to press the nawab with all kinds of extortionate demands. Among other things, Ranjit Singh was especially fond of seizing any valuable horses he might hear of, and made the nawab yield up some of his special favourites. In A.D. 1818 Multan, in spite of the gallant resistance offered by Nawab Muzaffar Khan, had been taken by the Sikhs. Hafiz Ahmad Khan had not dared to assist a brother of nawab and kinsman in the struggle, and his own turn was soon to come. In the autumn of 1821 Ranjit Singh, disengaged from more serious matters, determined to reduce him. He accordingly marched with an army through Shahpur to a point on the Indus opposite Dera Ismail Khan. He sent a force of 8,000 men across the river, and on this the town was surrendered by the governor, Diwan Manik Rai. Bhakkar, Leiah, Khangarh and Maujgarh were all successively reduced without resistance. Mankera, fortified by a mud wall and having a citadel of brick, but protected more by its position in the midst of a desert, was now the only stronghold remaining, and a division was advanced for its investment on the 18th November. Sardar Khan, Baddozai, a bold, impetuous man, recommended Hafiz Ahmad Khan to march out at once and attack the Sikhs. "To fight in the plain," said he, "is the business of a lion, to hide in a hole that of a fox." Hafiz Ahmad Khan, however, was not to be persuaded, and preferred to stand a siege. The Sikhs now set *beldars* to dig *kachha* wells for the use of the troops, and in the meantime water had to be brought on camels and bullocks from Maujgarh. The wells were ready by the 25th November, and Ranjit Singh then moved to Mankera with his main force; and on the 26th November the investment was completed. The bombardment of the place was continued for ten days after this, but not without loss to the besiegers. At last, one of the minarets of the fort mosque having been broken by the Sikh fire, Hafiz Ahmad Khan, looking on this as an unlucky omen and thinking that enough had been done for honour, proposed terms and agreed to surrender the fort on condition of being allowed to march out with his arms and property, and to retain the town and province of Dera, with a suitable *jagir*. Ranjit Singh granted the terms, and the place was surrendered accordingly. The nawab was treated with great civility and was sent with an escort to Dera. Ranjit Singh now annexed the cis-Indus tahsils. It must not be imagined that under the Sikhs the whole cis-Indus territory formed one compact Government. A great portion of it was held in *jagir*, each *jagirdar* possessing judicial and executive authority within the limits of his *jagir*, and being quite independent of the *kardar* to whom the *khalsa* portion of the district happened to

Multan captured by Sikhs in A.D. 1818.

Ranjit Singh besieged and took Mankera in A.D. 1821.

Jagirs under Sikh Rule.

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be leased. These *jagirdars* were almost invariably non-residents, and put in agents, known as *hakims*, to manage their estates. These *hakims* were more or less in the habit of raiding on one another and lifting cattle; and the country until the time of Diwan Sawan Mal was generally in a disturbed state. These *jagirs* were mostly in the Thal. The whole of the cis-Indus *jagirs* granted by the Sikh Government, with the exception of one or two small villages, have now been resumed.

Union of Four Governments.

The history of the four Governments has now been brought to the point where they begin to fall and to become united under one head. The process was completed between A.D. 1790 and 1821. Bahawal Khan II had the district lying open to him by the shifting of the Indus to the west, and having just seized those *talukas* which now form the Alipur Tahsil. In the part of the district which had been ruled from Dera Ghazi Khan there prevailed the anarchy which followed the rule of Mahmud Khan, Gujar. Between A.D. 1790 and the end of the century Bahawal Khan II took possession of the *talukas* of Arain, Kinjhar, Khor, Mahra, Seri and Trund, which now form the southern and western parts of the Muzaffargarh Tahsil. This country and the Alipur Tahsil were called Kachhi Janubi, opposed to the Kachhi Shumali of the Thal nawabs. He and his successor Sadik Khan II and Bahawal Khan III brought the country under a settled government, encouraged cultivation and excavated canals. The dates of their accessions and deaths are not on record until the time of Bahawal Khan III, who was the governor that helped Edwardes at the siege of Multan. He died in A.D. 1852. In A.D. 1818 the Sikhs took Multan, and the *talukas* formerly governed by Muzaffar Khan, *viz.*, Rangpur, Muradabad, Muzaffargarh, Khangarh and Ghazanfargarh, were henceforward administered by the Sikh governors of Multan. In 1819 the Sikhs took Dera Ghazi Khan, but Bahawal Khan remained in possession of his conquests. In 1821 the Sikhs took Mankera, from which the north of this district was governed. Bahāwal Khan submitted to the Sikhs, and thus the whole district became united under the rule of Ranjit Singh. A redistribution then took place. Bahawal Khan was confirmed in his conquests, which were farmed to him for a sum the amount of which is uncertain. The northern part of the district continued to be governed from Mankera, and Muzaffar Khan's *talukas* were governed from Multan. The Multani Pathans fled the country, and went for the most part to Dera Ismail Khan, not to return until the British came in A.D. 1849. In 1822 the celebrated Diwan Siwan Mal, who was *peshkar* to the Governor of Multan, Bhava Badan Hazāri, fell out with his superior officer, and the *talukas* of Muzaffargarh, Murādabad and Ghazanfargarh were given to him by Ranjit Singh

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in farm. Bahawal Khan failed to pay the sum for which his country was farmed to him. General Ventura was sent from Lahore with an army, and drove the Bhawalpurians out of the district and across the Chenab, which has since formed the boundary between this district and Bahawalpur. Eventually, in 1837, the whole of the present district of Muzaffargarh was united under Diwan Sawan Mal, Governor of Multan, under the Sikhs.

United Government under Diwan Sawan Mal.

Though under the Bahawalpur nawabs, parts of the district had enjoyed a fairly settled administration; Diwan Sawan Mal's government was better than anything that had preceded it. Its sole object was the accumulation of wealth for the diwan. The execution of public works, the administration of justice and security of life and property, were a secondary consideration, and were insisted on only because without them agriculture would not prosper, and the revenue would not be paid. His revenue system is noticed in chapter III. During his time a large number of Labana colonists from the Punjab was settled in the district.

Diwan Sawan Mal died on the 29th September 1844, and was succeeded by his son Mul Raj, of whom nothing particular connected with the district is known.

Multan War, 1848.

In April 1848 Sir Herbert Edwardes, then Assistant to the Resident at Lahore, heard of the news of the outbreak at Multan and the murder of Vans Agnew. He was then at Dera Fatteh Khan. He immediately crossed the river to Leiah, but retreated on the advance of a force sent by Diwan Mul Raj. The next month passed in movements and counter-movements in the neighbourhood of Leiah. Meanwhile, Edwardes had collected a mixed force made up of mainly Multani Pathans and of men of the Pandapur, Ustrana and other border tribes. On the 21st May he heard of the occupation of Dera Ghazi Khan by a force that he had sent down the right bank of the Indus under Van Cortlandt. He then proceeded to move towards Multan. On his march he fought the battles of Kaneri and Sadduzam, in which his rough levies behaved with great gallantry. These same forces took part in the siege of Multan under General Whish. On the taking of Multan, 22nd January 1849, the greater number were discharged and returned to their homes; 2,000, however, of Edwardes' levies were retained in Government employ, and the leading sirdars all received handsome pensions from Government.

Punjab annexed by British Government on 29th March 1849.

On the 29th March 1849 the Punjab was annexed, and the territories forming the present district, which were for the most part already under the control of British officers, became formally a portion of the British Empire as parts of the Khangarh and Leiah Districts.

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The Mutiny.

The following account of the events of 1857 is taken from the Punjab Mutiny Report. Major Browne observes on this district—

"The district of Khangarh entirely escaped any ill-effects beyond the alarm felt by the European community at the proximity of the mutinous regiments at Multan and the possibility of invasion of the lower portion by bands of robbers from Bahawalpur."

Precautions were, however, necessary. Mr. Henderson, the Deputy Commissioner, fortified the jail, the court-house and the chief and district treasuries, armed all Europeans and vigilantly guarded all the ferries which were not closed. He detached Lieutenant Ferris, Assistant Commissioner, to the banks of the Chenab to esablish a chain of posts along it. This object was fully accomplished. The villagers themselves served so willingly that a cordon of 104 posts, extending 26 miles, was soon established. At another time a chain of mounted police was thrown across the district from the Chenab to the Indus to cut off any stragglers of the 14th Native Infantry that might come down from Jhelum. An intelligence department was also organized between Khangarh, Dera Ghazi Khan, Multan and Muzaffargarh.

The Leiah District also remained very tranquil. Only one or two slight punishments were inflicted for offences connected with the mutiny. Much anxiety was caused at one time by the arrival of a wing of the 17th Irregular Cavalry under Captain Hockin, but it remained firm. When the Kharral insurrection broke out in September, Captain Hockin marched against the rebels, leaving at Leiah 40 of his men who had fallen under suspicion. The day before he marched news reached Leiah that the whole of the 9th Irregular Cavalry had mutinied at Mianwali. Captain Fendall says: "I certainly at first thought it was a deep-laid scheme for raising the the whole country that the 9th Irregular Cavalry were to appear before Dera Ismail Khan, be joined by the 39th Native Infantry, come on to Leiah, pick up the wing of the 17th Light Cavalry, go towards Gugera, coalescing with the tribes and march on to Multan where there were two suspected regiments of Native Infantry). It was feasible, and would have temporarily lost us the lower Punjab." But this dreaded junction did not take place. The news proved to be an exaggeration. The mutineers of the 9th Irregular Cavalry, who, strange to say, were all men of the cis-Sutlej States, were only 30 in number, and were entirely destroyed in a desperate fight, in which Mr. Thomson, the Extra Assistant of Leiah, was very dangerously wounded. His gallant conduct in this most spirited little battle was conspicuous.

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Constitution of District and Change of Boundaries.

The British district of Khangarh contained the present tahsils of Muzaffargarh and Alipur, and the *talukas* of Garh Maharaja and Ahmadpur, which are now in Jhang. Khangarh was first named as the headquarters of the district, but before the end of 1859 they were removed to Muzaffargarh. Khangarh contained four tahsils: Rangpur, Khangarh, with its headquarters at Muzaffargarh, Kinjhar and Sitpur. In 1859 the Kot Adu tahsil was separated from Leiah and added to this district, and the district took the name of Muzaffargarh and was attached to the Multan Division. In 1861 the Rangpur Tahsil was abolished. The *talukas* of Garh Maharaja and Ahmadpur were joined to Jhang, and the rest of the tahsil was attached to the Muzaffargarh Tahsil. The Kinjhar Tahsil was abolished and its *talukas* added to Muzaffargarh. The Sitpur Tahsil was moved to Alipur.

Leiah District formed. Leiah District broken up in 1861 and Leiah Tahsil transferred to Dera Ismail Khan District.

Before annexation the cis-Indus tract was included in the government of Diwan Sawan Mal. At the first arrangements of the district the trans-Indus tahsils of the old Dera Ismail Khan and Bannu Districts were formed into the Dera Ismail Khan District, with headquarters at Bannu. The cis-Indus tahsils, that is, Mianwali, Bhakkar and Leiah and till 1859 the Kot Adu Tahsil of Muzaffargarh, formed the Leiah District, with headquarters at Leiah. This arrangement, though in many respects more convenient than the later one, was set aside in 1861 as the charge of so long a border was considered too heavy for the Deputy Commissioner of Dera Ismail Khan. The northern portions of the two districts were then formed into the Bannu District, the southern into the Dera Ismail Khan District. The original division was longitudinal, the Indus being the boundary, the new division was transverse, sections of the country on both sides of the Indus being included in each district.

Headquarters of Commissioner moved from Leiah. Constitution of new Leiah Tahsil.

The new Dera Ismail Khan District consisted of five tahsils. Of these Dera Ismail Khan, Kulachi and Tank were trans-Indus, and Leiah and Bhakkar cis-Indus. On the breaking up of the old Leiah District on the 1st January 1861, the headquarters of the commissionership were transferred from Leiah to Dera Ismail Khan, which, from being an out-station, became the capital town of the division. The new Leiah Tahsil included the southern part of the old Mankera Tahsil broken up in 1853-54, when the Chaubara, Nawankot and Maujgarh *talukas* were transferred to Leiah; the village of Paharpur was transferred from the Kot Adu Tahsil in 1861, and a strip of riverside villages was transferred from the Sanghar Tahsil in 1869. In 1874 Sukhani and six other villages were transferred from the Sanghar (now Taunsa) Tahsil of Dera Ghazi Khan to Leiah.

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Commissioners of Leiah.

Colonel Ross was the first Commissioner of the Leiah Division, and held the appointment from 1850 until his death in September 1857; his tomb is in the Leiah cemetery. Major Pollock, Deputy Commissioner of Dera Ghazi Khan, then officiated for a few months, and was followed by Major Brown, who remained till 1860.

Deputy Commissioners of Leiah.

The charge of the old Leiah District was held by the following Deputy Commissioners:—

Captain Hollings ...	... 1849-1852
Mr. Simson ...	... 1852-1856
Captain McNeile ...	... 1856
Captain Bacon ...	... 1856-1857
Captain Fendall ...	... 1857-1859
Captain Parsons ...	... 1859-1860
Lieutenant Smyly ...	... 1860

In 1901 Leiah was transferred to new Mianwali District.

On the separation of the North-West Frontier Province from the Punjab, a further reconstitution took place, and on the 9th November 1901 the Mianwali District was formed out of the four tahsils of Isa Khel, Mianwali, Bhakkar and Leiah, the former two being taken from Bannu, and the latter two from Dera Ismail Khan. The headquarters was fixed at Mianwali, the Bhakkar and Leiah Tahsils forming a sub-division, with headquarters at Bhakkar, and the district was included in the Multan Division.

In 1909 Leiah was transferred to Muzaffargarh District.

On the 1st April 1909 the Leiah Tahsil was transferred to the Muzaffargarh District, and became its sub-division.

Multani Pathans.

The only political colonists who were introduced during British rule were the Multani Pathans, who returned and partly recovered the lands from which they had been expelled in A.D. 1818 by the Sikhs.

Later History.

There has been nothing of importance in the later history of the district. The people have been peaceable and loyal. During the great war in 1914-15 there was unrest, and a series of dacoities was committed which began in rumours that an invasion by the Germans was about to take place. This was communal and economic, however, rather than political, as the Hindus were looted, etc., by the Muhammadans who owed them money. The Hindus have an economic hold on the district as the Muhammadans are greatly in debt to them. This leads to strained relations at times in days of communal strife.

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List of Deputy Commissioners.

The following is a list of the Deputy Commissioners who have administered the district since annexation:—

Year.	Name.	From	To
1849	Mr. Wedderburn ..	..	..
	Mr. J.H. Prinsep ..	..	..
	Lieut. James ..	..	..
1850-57	Lieut. Farrington ..	..	..
	Captain Voyle ..	..	..
	Lieut. McNeile ..	..	..
	Lieut. J.S. Tighe ..	..	..
	Captain Bristow ..	..	..
1858	Mr. Henderson ..	..	..
1859	Captain Bristow ..	..	..
	Captain Maxwell ..	..	..
1860	Lieut. J.S. Tighe ..	..	..
1861	Captain J.S. Tighe ..	1st January 1861	31st July 1861.
1861	Captain T.F. Forster ..	1st August 1861..	31st October 1861.
1861-62	Captain J.S. Tighe ..	1st November 1861	31st July 1862.
1862-65	Captain H.J. Hawes ..	1st August 1862..	24th October 1865.
1865	Mr. R.G. Melvill ..	25th October 1865	24th December 1865.
1865-66	Major H.J. Hawes ..	25th December 1865.	8th April 1866.
1866	Captain R.G. Melvill ..	9th April 1866 ..	16th December 1866.
1866-68	Major H.J. Hawes ..	17th December 1866.	2nd May 1868.
1868	Captain Armstrong ..	3rd May 1868 ..	14th June 1868.
1868-69	Captain J. Fendall	15th June 1868 ..	30th April 1869.
1869	Mr. G.E. Wakefield ..	1st May 1869 ..	31st October 1869.
1869-70	Captain J. Fendall ..	1st November 1869	28th July 1870.
1870	Mr. M. Macauliffe ..	29th July 1870 ..	7th September 1870.
1870-71	Captain J. Fendall ..	8th September 1870.	27th May 1871.

Year.	Name.	From	To
1871	Captain F.J. Miller ..	28th May 1871 ..	9th June 1871.
1871-72	Mr. F.D. Bullock ..	10th June 1871 ..	9th February 1872.
1872	Captain F.J. Miller ..	10th February 1872	22nd March 1872.
1872-75	Mr. J.D. Tremlett ..	23rd March 187 ..	16th August 1875.
1875	Mr. F.E. Moore ..	17th August 1875	5th November 1875.
1875-76	Mr. J.D. Tremlett ..	6th November 1875.	3rd June 1876.
1876	Mr. D.B. Sinclair ..	4th June 1876 ..	3rd July 1876.
1876-77	Mr. J.D. Tremlett ..	4th July 1876 ..	8th March 1877.
1877-78	Major F.D. Harrington..	9th March 1877 ..	8th December 1878.
1878-79	Mr. M. Macauliffe ..	9th December 1878	9th May 1879.
1879	Mr. Edward O'Brien ..	10th May 1879 ..	26th October 1879.
1879-80	Mr. M. Macauliffe ..	27th October 1879	7th March 1880.
1880-81	Mr. Edward O'Brien ..	8th March 1880..	31st May 1881.
1881	Mr. C.E. Gladstone ..	1st June 1881 ..	17th July 1881.
1881	Mr. H.W. Steel ..	18th July 1881 ..	24th November 1881.
1881-82	Mr. Edward O'Brien ..	25th November 1881.	31st May 1882.
1882-83	Mr. C.E. Gladstone ..	1st June 1882 ..	11th June 1883.
1883	Mr. R. Maconachie ..	12th June 1883 ..	26th July 1883.
1883	Mr. C.E. Gladstone ..	29th July 1883 ..	26th October 1883.
1883-84	Mr. A.H. Benton ..	27th October 1883	10th November 1884.
1884-86	Mr. J.C. Brown ..	11th November 1884.	4th June 1886.
1886	Mr. H. Meredith ..	5th June 1886 ..	15th August 1886.
1886-87	Mr. T.C. Brown ..	16th August 1886	17th February 1887.
1887-88	Mr. H.W. Steel ..	18th February 1887	24th April 1888.
1888	Sardar Gurdial Singh, Man.	25th April 1888..	22nd June 1888.
1888-89	Mr. H. W. Steel ..	23rd June 1888 ..	19th April 1889.
1889-93	Sardar Gurdial Singh, Man.	20th April 1889..	5th March 1893.

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Year.	Name.	From	To
1893	Captain F.E. Bradshaw	6th March 1893..	24th April 1893.
1893	Captain C.M. Dallas ..	25th April 1893..	6th November 189
1893	Captain C.P. Egerton ..	7th November 1893.	20th November
1893-94	Captain C.M. Dallas ..	21st November 1893.	13th August 1894.
1894	Diwan Narindra Nath ..	14th August 1894	14th October 1894.
1894-95	Captain C.M. Dallas ..	15th October 1894	18th July 1895.
1895	Mr. R. Love ..	19th July 1895 ..	19th August 1895.
1895-96	Captain C.M. Dallas ..	20th August 1895	25th February 1896.
1896	Mr. C.L. Dundas ..	26th February 1896	2nd April 1896.
1896-97	Captain F. E. Bradshaw	3rd April 1896 ..	24th March 1897.
1897	Mr. R. Love ..	25th March 1897..	19th August 1897.
1897	Mr. A.J.W. Kitchin ..	20th August 1897	14th October 1897.
1897-98	Maulvi Inam Ali ..	15th October 1897	21st October 1898.
1898-99	Mr. E.A. Estcourt ..	22nd October 1898	20th January 1899.
1899	Maulvi Inam Ali ..	21st January 1899	13th October 1899.
1899-1901	Captain H.S. Foxstrangways.	14th October 1899	1st May 1901.
1901	Sheikh Asghar Ali ..	2nd May 1901 ..	17th June 1901.
1901	Captain H.S. Foxstrangways.	18th June 1901 ..	4th October 1901.
1901	Mr. A.J.W. Kitchin ..	5th October 1901	29th October 1901.
1901-03	Sheikh Asghar Ali ..	30th October 1901	2nd September 1903.
1903	Mr. A.L. Danson ..	3rd September 1903.	2nd October 1903.
1903-05	Mr. Sheikh Asghar Ali ..	3rd October 1903..	31st October 1905.
1905-07	Mr. R.T. Clarke ..	1st November 1905	13th August 1907.
1907	Mr. N. H. Prenter ..	14th August 1907	21st October 1907.
1907-08	Mr. R.T. Clarke ..	22nd October 1907	16th February 1908.
1908	Mr. J.M. Dunnett ..	17th February 1908	20th October 1908.
1908-09	Mr. R. Sykes ..	21st October 1908	1st March 1909.
1909-10	Rai Bahadur Pandit Hari Kishan Kaul.	2nd March 1909..	6th April 1910.

Year.	Name.	From	To
1910-11	Mr. F.W. Skemp ..	7th April 1910 ..	16th June 1911.
1911	Lala Topan Ram ..	17th June 1911 ..	19th June 1911.
1911	Mr. M.S. Leigh ..	20th June 1911 ..	31st July 1911.
1911	Mr. F. W. Skemp ..	1st August 1911..	22nd October 1911.
1911-12	Major A.J. O'Brien, C.I.E.	23rd October 1911	7th April 1912.
1912-13	Mr. F. W. Skemp ..	8th April 1912 ..	20th May 1913.
1913	Mr. I. C. Lall, I.S.O. ..	21st May 1913 ..	18th September 1912.
1913	Mr. W. W. Powell ..	19th September 1913.	18th October 1913.
1913-14	Mr. I.C. Lall, I.S.O. ..	19th October 1913	20th July 1914.
1914	Sheikh Rukan-ud-Din	21st July 1914 ..	11th August 1914.
1914-15	Mr. I. C. Lall, I.S.O. ..	12th August 1914	26th May 1915.
1915	Mr. J. R. S. Parsons ..	27th May 1915 ..	30th July 1915.
1915	Sheikh Rukan-ud-Din	31st July 1915 ..	15th August 1915.
1915	Mr. J.R.S. Parson ..	16th August 1915	24th October 1915.
1915-16	Major C.H. Buck, I.A...	25th October 1915	4th December 1916.
1916-17	Mr. E. Sheepshanks ..	5th December 1916	9th January 1917.
1917	Major C.H. Buck, I.A...	10th January 1917	18th March 1917.
1917-18	Rai Bahadur Bhai Hotu Singh.	19th March 1917	13th September 1918.
1918	Mr. H.H. Jenkyns ..	14th September 1918.	12th December 1918.
1918-20	Rai Bahadur Bhai Hotu Singh.	13th December 1918.	23rd May 1920.
1920	Sheikh Siraj-ud-Din ..	24th May 1920 ..	29th November 1920.
1920-21	Mr. F. B. Wace ..	30th November 1920.	8th March 1921.
1921-25	Khan Bahadur Sheikh Siraj-ud-Din.	9th March 1921..	25th October 1925.
1925-26	Sardar Bahadur Nihal Singh.	7th November 1925.	19th May 1926.
1926	Syed Muhammad Shah	20th May 1926 ..	4th June 1926.
1926-27	Sardar Bahadur Nihal Singh.	5th June 1926 ..	30th June 1927.
1927-28	Nawabzada Saidullah Khan.	1st July 1927 ..	30th September 1928.
1928	Mr. E. H. Lincoln ..	1st October 1928..	..

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Archæological Remains and Protected Monuments.

There are no places of real archæological interest in the district. The following are the protected monuments under the Ancient Monuments Preservation Act, VII of 1904:—

(1) Tomb of Tahir Khan, Nahar, at Sitpur;

(2) Mosque of Tahir Khan, Nahar, at Sitpur;

These have brown and yellow tiles and glazed bricks, points of difference to the Multan and Dera Ghazi Khan tombs. Their date is A.D. 1475;

(3) Cemetery at Muzaffargarh; and

(4) Cemetery at Leiah.

The tomb of Hazrat Lal Isan dates back to A.D. 1400, but is not a protected monument. So also the tomb at Daira Din Panah. These are referred to elsewhere. There are mud forts of Ranjit Singh's time at Munda, Chaubara, etc., in the Thal.

SECTION C.—POPULATION.

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POPULATION.

Density and Distribution.

The area of the Muzaffargarh District is 6,052 square miles, and the population, according to the census of 1921, 568,478, which gives a mean density of nearly 94 persons per square mile. The vast expanse of the Thal mainly accounts for this sparse population. The mean density per square mile for the Punjab is 183. The density of the rural population is nearly 90 per square mile. The incidence of the rural population per square mile on the net cultivated area of 1921 is 568, and on the average area of matured crops 562. The district has a low rainfall and copious irrigation. The population has increased since 1881, and increase has followed extension of irrigation. This extension of irrigation is not of recent date, and there has been time for the population to adjust itself to existing conditions; in it a definite check has occurred in the increase of the inhabitants. It is probable that Muzaffargarh is nearing the point when production limits population, though there is certainly no indication that pressure on resources is unduly heavy.

Table 6 of volume B gives statistics of density of population for each tahsil and for the whole district, showing the distribution between towns and villages.

The distribution of population, by tahsils, is shown in the following statement:—

Tahsil.	Area in square miles.	TOTAL POPULATION.			Density per square mile of total area.
		Total.	Males.	Females.	
Muzaffargarh ..	912	178,579	97,022	81,557	196
Alipur	925	146,711	79,921	66,790	159
Kot Adu ..	1,321	108,970	59,576	49,394	82
Leiah	2,417	134,218	72,086	62,132	56
Total ..	*5,575	568,478	308,605	259,873	102

*This area is from the revenue records. The area as given by the Survey Department is 6,052 square miles.

It will thus be seen that the most thinly-populated tract in the district is the Thal, which lies in the Leiah and Kot Adu Tahsils. Next in density of population comes the riverain tract of which the Alipur Tahsil has the largest

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share. The most thickly-populated is the central canal-irrigated tract; and the greater part of this falls in the Muzaffargarh Tahsil.

There are 15·2 villages per 100 square miles. The number of persons per occupied house in villages is 4·5 and in towns 3·9.

Towns and Villages.

The number of towns and villages in the district is 855.

These may be classified as follows:—

With population under 500	...	482
" from 500 to 1,000	...	192
" from 1,000 to 2,000		134
" from 2,000 to 5,000	...	43
" from 5,000 to 10,000	...	4

For census purposes, a town has been defined as including—

(1) every municipality;

(2) all civil lines not included within municipal limits; and

(3) every continuous collection of houses inhabited by no less than 5,000 persons specially treated as such.

The definition of village is identical with that of an estate under the Punjab Land Revenue Act.

Towns.

The population of the towns (all municipalities) is given below:—

—	1921.	1911.	1901.
Muzaffargarh	5,386	4,387	4,018
Leiah	8,476	8,173	7,546
Karor	3,539	3,503	3,243
Khangarh	3,184	3,349	3,621
Alipur	3,434	3,312	2,788

The town population is a mixed one, more than half of the inhabitants being Hindus representing trading classes. The richer Hindus, even when they live upon the land, prefer

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residing inside the towns. The Muhammadan population of towns consists largely of artisans. The figures are given in table 7 of volume B.

Villages.

There are 850 "villages" altogether in the district according to the census of 1921. Owing to the peculiar constitution of what most nearly corresponds in Muzaffargarh with the "village community" of the Punjab, the "villages" are for the most part collections of a greater or less number of plots of land surrounding wells, while the men who have sunk these wells and brought the adjacent land under cultivation have often little real connection with the owners of other wells within the village boundaries. Hence, instead of the whole community being collected in the common homestead, many of the cultivators reside permanently at their wells so that, instead of one defined *abadi* (village site). the population occupies a series of detached hamlets scattered over the face of the country. Some of these *abadis* are larger than others, and, where a number of wells lie close to one another and there are advantages of communication, or where there is some place of religious sanctity, the hamlet becomes a strong one and grows sometimes into a large homestead. In this way the largest *abadi* in a village is sometimes known by the name of the village, but, oftener than not, none of the *abadis* in the village area corresponds to it. The tendency of the insecure times of old when people preferred living together in enclosed or fortified places has been reversed in consequence of the security of life and property.

Grouping of Houses.

The small well *abadi* consists usually of a few huts for the tenants or cultivating landlords and a shed or two to accommodate the cattle. It is built as close to the well as possible. The next larger hamlets, where a whole family of proprietors lives on a well, is made of houses built together anyhow with the door of each house facing open ground. The still larger *abadis*, where several families live together with a few artisans, are arranged so that there is a lane or street running through the centre and a few lanes by way of reaches to the houses built in the interior. The arrangement of houses in the larger villages or towns is more systematic, and there are regular streets and lanes. The shops are always built in the central street and the dwelling-houses do not usually open into the main street. The artisans usually live at one end or on the skirts of the village. Owing to excessive heat, the main street of a town is often roofed. At Muzaffargarh or other towns which are being extended the streets are too broad to be roofed, but in the old towns of the Alipur Tahsil, for instance, the style of comparatively narrow streets still exists.

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Growth of Population.

The total population registered at the last five censuses is compared below:—

Census.	Total.	Male.	Female.
1881	441,217	240,190	201,037
1891	493,914	267,574	226,340
1901	527,681	285,976	241,705
1911	569,461	308,350	261,111
1921	568,478	308,605	259,873

There has been a steady increase in the population of the district between 1868 and 1911, and the census of 1921 showed only a small decrease below the figure for 1911. Some of the improvement in earlier decades may have been due to better enumeration at the census, and to immigration from other districts; but the district is not subject to famine, and before the last decade had not had any violent visitations of epidemics. There was nothing therefore to retard the growth of population. The female population has kept pace with the male population. According to the census of 1901, the growth of population had been general, except in the Thal proper, where successive years of drought and a rigid fixed assessment had induced the graziers to drive their cattle to other parts of the district, and well-owners to abandon their wells and to work as tenants in other circles. The census of 1921 shows that the population of the two tahsils containing the Thal (the fixed assessment no longer exists), *viz.*, Leiah and Kot Adu, actually increased from 128,591 to 134,218, and 107,671 to 108,970, respectively. The population in the other two tahsils decreased, and this was most marked in the case of the Muzaffargarh Tahsil, where the population fell from 187,064 to 178,579. The general conclusions stated under "Density and Distribution" are of course applicable. The census report of 1921 deals with the decade 1911-21 as follows:—

"To sum up, the decade may be described as an exceptionally healthy one, with the one appalling outbreak of influenza in 1918; in a series of particularly good years, 1915 and 1917 stand out as less healthy than the rest owing to epidemics of plague and fever, respectively. The series of good years has resulted in a high birth-rate,

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which, however, was brought down with a rush in 1918 and has not yet reached its former level, though it has improved in each of the subsequent years. At the end of the decade there were most cheering signs of a rapid recovery after the desolating events of 1918; the death-rate was exceptionally low; and, though the birth-rate was at a low ebb after the exceptional mortality amongst young adults in 1918, it was yet improving."

There has been nothing special to retard the growth of population since 1921, and the result of the next census, to be taken in 1931, will probably show that the increase has been maintained.

Birthplace.

In the census report of 1921, chapter III dealt with "Birthplace," instead of "Migration," as the new title was more appropriate than the old as it more accurately describes the actual entries in the census schedules.

Of the total population of the district, 568,478, the number of persons born in the district is 547,865, that born in contiguous districts and States, 16,324, that born in non-contiguous districts and States 1,753 and that born outside the Punjab 2,536.

Further figures will be found in volume B, table 8.

The people of the district, like those of the Multan and Dera Ghazi Khan Districts, do not like leaving their home district, and movements in the population are mainly between Muzaffargarh and the contiguous districts and the Bahawalpur State. The Muzaffargarh zamindar has not yet proved himself a good colonist, and those who find their way to the colonies go in search of work during hard years and invariably come back when local conditions are favourable. The balance of migration to all canal colonies in 1911 was 4,299, and in 1921 it was 6,272. The change in the balance, 1911 and 1921, was 1,973, and the difference of balance due to migration of the decade was 2,833. The "balance of migration" is equal to the number of immigrants minus the number of emigrants.* One hundred squares of land have recently been allotted to the district for peasant grants in the Nili Bar, and perhaps it will lead to more emigration.

Considerable parties of powindahs from across the North-West Frontier come to the district every year partly for grazing their camels in the Thal, and partly for manual labour. They usually build mud walls or sell sundry articles of merchandise and start back for their homes at the end of

* See Census Report, Volume I. The value of these figures is stated to be doubtful.

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the winter. These powindahs constitute the bulk of non-Indian Asiatics enumerated in the district. The few Europeans included in the population are the district officers. The census report shows a fairly large number, however, but this is due to the presence fo troops in the district in camp at the time.

Age.

Figures relating to age are given in table 10 of volume B. The distribution of population into different stages of age is noted below for both sexes:—

Age period.	Males.	Females.	Total (1921).
Under 1	11,525	11,431	22,956
1—4, inclusive	26,304	25,099	51,403
5—9 "	49,778	42,469	92,247
10—14	40.123	28,339	68,462
15—19 "	23,664	20,236	43,900
20—29 "	49,104	48,071	97,175
30—39 "	41,912	33,189	75,101
40—49 "	29,228	24,113	53,341
50—59 "	18,828	13,738	32,566
60 and over	18,139	13,188	31,327

The proportion of children under 10, both sexes, per 100 persons aged 15—40 was 77 in 1921, and per 100 married females aged 15—40 was 192. The number of married females aged 15—40 per 100 females of all ages was 33. In 1891 the number was 37, and in the two later census years 34. The proportion of persons aged 60 and over per 100 aged 15—40 was 16 in the case of males, and 13 in the case of females. This is a distinct improvement since 1891, but in the case of females the figure has remained at 13 since 1901. The people are not particularly short-lived; several persons live up to the age of 80, and have been known to have reached the age of 100 years, and even more.

Vital Statistics—System of Registration.

In municipal towns births and deaths are registered by the municipal staff. In villages, however, the village chaukidar is made responsible for taking notes in books, regularly kept for this purpose, of all births and deaths occurring within his charge. The entries are checked by the supervising officers of the Revenue, Police and Health

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Departments, and the chaukidar brings his book to the police station once a week to report the statistics registered since his last visit, which are transferred to the regular registers maintained for the purpose.

The system is obviously the best practicable, and has been considerably improved of late. But it is not perfect yet, and it is difficult to say that no births or deaths escape registration, or that the causes of death reported are always the correct ones.

Birth and Death-rates.

According to the latest published figures for 1928, the birth-rate *per mille* of population is: Males 20·7; females 17·3; both sexes 38. The mean ratio during the previous five years was 18·5 males, 15·5 females and 34 for both saxes. The births in this district are therefore below the provincial average of 46·3. The number of males born is nearly always somewhat in excess of the females. The average death-rate, on the other hand, is 19·8 against the provincial average of 24·7 *per mille*. The death-rate amongst males is 20·0, whilst that amongst females is 19·5. The mean ratio during the previous five years was 29·5 males, 29·2 females and 29·3 for both sexes. On the whole, the district is a progressive one with respect to population compared with the provincial averages, but the smaller birth-rate is a noticeable feature of the district, which leads to paucity of the female sex, and consequently to the necessity of paying large prices for imported wives. Births and deaths are shown in tables 11 and 13, and deaths in table 12, of volume B.

Diseases.

Cholera breaks out very seldom, and the deaths from this cause are not at all considerable. In 1928 the deaths from cholera amounted to 0·02 per 1,000. Smallpox proves more fatal in some years. In 1928 the death-rate was 0·1 per 1,000. Fever is, however, the most destructive ailment in the district, and accounts for 17·5 *per mille* deaths a year. The excessive moisture caused by inundation in the rivers and by inundation canals in the greater part of the district gives rise to malaria.

Pneumonia and bronchitis are common in the winter, and a death is often reported to be due to fever when the cause really was pneumonia. The deaths from respiratory diseases were 0·3 *per mille* in 1928; from dysentery, etc., they were 0·1 *per mille*. The following extract from an old Gazetteer gives a correct description of the conditions prevailing:—

"The diseases most prevalent in the district are malarial fevers, skin and eye diseases, enlarged spleens, bronchitis, pneumonia and ulcers. The fevers, intermittent and remittent, prevail from September to the middle of December,

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the worst month being generally October, during which month very few escape one or more attacks of either one or the other form of it; they are not severe in their nature, but, when once attacked by either, repeated relapses are frequent; this in the end leads to *sequelæ* in the shape of dysentery, bronchitis, pneumonia and enormous spleens, thus often causing death indirectly. Skin and eye diseases prevail throughout the hot season; they are due to heat, and the careless and dirty habits of the people. Next to fevers, these are the most common diseases of the district. Bronchitis and pneumonia prevail from November to April; they are very severe and fatal, and are probably more frequent in this district than in any other in the Punjab. The causes appear to be the great range of temperature during the cold months, the want of proper clothing and the generally impaired state of the constitution of the people from previous repeated attacks of fever. A very great proportion of deaths during the cold months is due to these two diseases, though fever is generally stated to be the cause. Ulcers are very common throughout the year; they are usually very large and sloughing, and difficult to cure; and often originate from a very trivial cause, such as a prick, scratch, pimple or sting of an insect, people with large spleens being particularly liable to them. Enormous spleens, the sequel to repeated attacks of ague, chronic septic troubles, syphilis, etc., are met with everywhere, especially amidst the Hindus and poorer classes. Eventually this disease is indirectly the cause of much mortality in the district. Dysentery and diarrhœa are not common, and cholera is almost unknown. Smallpox is occasionally very prevalent during the spring, and measles more so. Stone and goitre are often met with. Europeans, as a rule, enjoy very good health in the district."

The Leiah Tahsil is healthy, and perhaps more favoured in this respect than the rest of the district.

Plague.

The district has so far escaped the ravages of plague. Imported cases of plague have occurred from time to time in different parts of the district. But, so far, there have not been many indigenous cases, nor has there been a regular outbreak within the district. In 1927 deaths from plague amounted to 0·01 *per mille*. Immunity is probably due to dispersed dwellings in small hamlets.

Influenza.

"The influenza epidemic of 1918 resulted in a death-rate of 41·6 *per mille* in the district. There were two slight outbreaks early in 1918, and then in October the disease appeared for a third time; it was now in a malignant form and was allied with a very fatal type of pneumonia; by the middle of the month it had spread throughout the plains of the Punjab and reached the hill districts soon after. It

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appears to have been spread by returning military units, post office and railway employees and general travellers; the infection was extremely rapid, the period of incubation being rather less than two days. From the middle of October to the middle of November the state of the province beggars description. Hospitals were choked, dead and dying lay by the sides of the roads, burial-grounds and burning-ghats were strained beyond their capacity and corpses lay awaiting burial and cremation. The disease proved especially fatal to young adults, including women of child-bearing age, and was said to single out pregnant women more than others. It was capable of treatment, and even an elementary knowledge of simple rules of health would have rendered it far less disastrous; as far as can be ascertained, the case of mortality was rather under 5 per cent. amongst Europeans, about 6 per cent. among Indians of the higher classes who were able to obtain medical attention and anything over 50 per cent. amongst the Indians of the countryside who had no knowledge of the treatment to be adopted and could not obtain medical aid*."

Relapsing Fever.

A severe epidemic of relapsing fever broke out in the district in 1923 and resulted in 6,207 deaths. Relapsing fever was in all probability prevalent in the district in earlier years also, but it was then confused with influenza, and deaths from this malady were recorded under the head influenza. In 1923 it was recognized for the first time. In 1924 it was responsible for 528 deaths, in 1925 for 120 deaths and in 1926 for 7 deaths. The last case occurred on the 6th July 1926. The infection seems to have died out now.

Measures taken to prevent Fevers, etc.

No special measures have been taken to keep off plague. A great deal has been done by way of eradicating malaria. The depressions adjoining towns caused by the digging of earth for building purposes, etc., and disused wells are filled up as far as possible. Rural dispensaries have been opened, and there are also travelling dispensaries. Quinine is distributed freely for curative purposes only. As a prophylactic, it has not proved of much value. There is now a separate District Medical Officer of Health for the district. A great improvement generally has already been noticed.

Infant Mortality.

Female infanticide is unknown in the district. Indeed, owing to the paucity of females, a girl is looked upon as valuable property. The number of deaths among infants under one year of age is, however, very large, and many more infants die under the age of one month and between one month and six months than between six months and a year. This is probably due to the absence of care of the expectant mother and the babies. Women and children's

* Census Report, 1921.

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welfare work is to be undertaken as soon as possible; the inability to obtain qualified women for work in this district is retarding it. More male infants die than female infants. This is natural with reference to the larger number of males born. The causes of the high mortality amongst children are insufficient clothing in the winter and rapid variations of temperature in the autumn.

Muhammadan Ceremonies—Birth Ceremonies.

The ceremonies observed by the majority of the Muhammadan population are described below:—

No particular rites are observed on the birth of a girl. When a boy is born, it is customary to bury a knife upright in the ground near the head of the mat on which the mother lies (women are delivered lying on a mat on the ground, never on a bed). The knife is to keep away *jinns*. The village *mullan* is sent for, and in the child's right ear repeats the call to prayer, and in the left *Allah-o-Akbar*. This is a religious ceremony. Alms and food are distributed. Before the child is allowed to suck, a small quantity of sugar and pounded aniseed—called *ghutti*—is placed in its mouth by a person of the family who is of well-known good character and disposition. Biloches add the liquor from asses' dung to the *ghutti*, stirring the mixture with a knife or sword, which is supposed to make it firm in battle, that is, stubborn as an ass and a warrior. On the first, or at latest on the third, day after birth the child is named, after consultation with the *pir* and *mullan*. This is a religious ceremony. Between the seventh and twenty-first days one or two goats are killed. The head, feet, entrails and bones are packed into the skin and buried. The flesh is cooked and divided among relations and the poor. The name of this ceremony is *akika*, and it is religious also.

Hair cutting.

The next ceremony in a child's life is the solemn cutting of its hair. A child's first hair is called *jhand*, and the act of cutting the hair off is *jhand lahawan*. Every child has its *jhand* cut off at the door of the village mosque. This is called *vadian di jhand lahawan*, "to cut off the hair according to ancestral custom." This ceremony is an occasion for a gathering of friends, and for a feast. But, before the child was born, the parents have made vows to more than one saint to cut off the child's hair at his shrine. Successive growths of the child's hair are accordingly cut off at the shrine of each saint to whom the parents have vowed. This votal cutting of the hair is called *manaut di jhand lahawan*. This is a religious ceremony.

Circumcision.

From three months to ten years boys are circumcised. This is also a religious ceremony. No particular age is fixed, but it is thought well to get the ceremony over soon because boys are less liable to attacks of *jinns* after it has been

performed. Among the rich much money is spent, and the rite is performed with as much display as a marriage. It is called the small marriage. Taking a wife is the big marriage. The operator is always a Pirhain, a caste which lives by this industry. They are so named because the Prophet gave his coat, *pairahan*, to Sheikh Nur, one of their ancestors, as a reward for circumcising a convert after a barber had refused. Since then, this service is not performed by barbers. The local name for circumcision is *tahor*, said to be derived from *tahur*, which means purifying, in Arabic.

Hindu Ceremonies.

At the birth of a child among the Hindus the Brahmin is summoned or referred to, and a name is given to the child with his advice. The Brahmin is paid, and, if the baby is a boy, alms are distributed. A knife, sickle or other iron instrument is placed under the head of the mat on which the woman is delivered. This is done to keep off evil spirits. A pitcher is filled with water, and kept in the room with a knife or piece of iron in it. The woman may not drink water except from the pitcher.

When the new-born is a boy, a *thali*, bronze plate, is held up and struck with the hand or some wooden stick and sounded like a gong in order, it is supposed, to remove the child's fear of sounds, and make him plucky. The child is bathed directly after birth, and is bathed regularly every day. *Ghutti*, consisting usually of *gur* (sugar) and *saunf* (aniseed) is administered to the baby before he is allowed to suck for the first time. The object is to clear up his inside. The woman bathes on the fourth day and removes to a *charpai*, the knife, etc., being still kept under her pillow. On the sixth evening after birth a *bandi* (account book) is kept near the baby's head, with a pen and inkpot and a bow and arrow, and also a sword, if possible, is kept handy to enable the goddess of fortune (Bidmata) to write down the new-born's fortune at night. The name, date and time of birth are noted in the account book (*bandi*) the next day. This ceremony is called *satthi*, and is usually performed in the presence of the brotherhood, who are either fed or presented with dates and sugar. The woman bathes again on the seventh day and a third time on the thirteenth day, when the confinement is over, and she can go out without taking any precautions against evil influences. The baby is kept wrapped in a loose piece of cloth until the thirteenth or twenty-seventh day, when he is clothed in a *kurta* (jacket). Some boiled wheat (*ghunganis*) is distributed at the time. For thirteen days the family is supposed to be in a state of impurity (*sutak*), and does not eat with others.

Other General Birth Customs.

There is one peculiar custom, almost universal, of moulding the heads of new-born children by means of an earthenware cup so as to produce a broad open forehead.

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This custom prevails in Afghanistan and Multan, but is certainly unknown in the Punjab proper. It is said to be efficacious, and does not appear to injure the brain, though it certainly does produce the round bullet-head associated in European minds with a meagre intellectual development, and probably does result in it. It is considered the first duty of a mother to shape the head of her child. In addition to pressing the forehead with an earthen cup, the mother keeps pressing it with the palm of her hand whenever she is suckling the baby. If the head is not shaped well in this manner, the child is called *mula, dhasira* (having two and a half heads), or *satsira* (having seven heads). It is considered a mark of beauty that there should be a pit in the chin. This is made artificially by frequently pressing the centre of the chin of a baby with one end of a *surmachu*. An eagle nose is considered very beautiful; the nose of the infant is accordingly pulled and moulded.

The mother is also expected to shape the limbs and body of the infant. This is done by a process called *bandhna* or *baddhan;* a sheet of cloth is wrapped round the infant so that his arms should be stretched alongside of his body and his legs straight; a strip of cloth is then tied round the extremities somewhat like the figure 8, with a knot in the middle. The head is kept erect. This practice is supposed to keep the body in shape.

Sex.

The number of females to 1,000 males of the actual population in 1921 was 842, and this was the same in 1901 and 1891. In 1911 it was 847, and in 1891 it was 835.

The proportion of males is larger than that of females, which is the natural consequence of the larger birth-rate of the male sex. The comparatively small death-rate of males is probably due to the active life, which gives them more exercise in the open air than females. The ratio is about the same among Hindus and Muhammadans.

The proportion of children under nine years is, however, somewhat larger among the Hindus than among the Muhammadans, due probably to the greater care the Hindus are able to take of their children. The table below shows the number of females and males under five years of age:—

Year of life.	HINDUS.			MUHAMMADANS.		
	Total.	Male.	Female.	Total.	Male.	Female.
Under 1 ..	2,795	1,353	1,442	19,939	10,058	29,881
1—4, inclusive ..	5,991	2,932	3,059	44,904	23,112	71,792
5—9	10,477	5,480	4,997	80,953	43,863	37,090

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Statistics of Civil Condition.

Table 10 in volume B shows the number of single, married and widowed persons by religions, at different ages. The totals are given below:—

	TOTAL.			HINDUS.			MUHAMMADANS.		
	Single.	Married.	Widowed.	Single.	Married.	Widowed.	Single.	Married.	Widowed.
Persons ..	282,655	232,091	53,732	32,579	28,849	8,450	247,448	201,057	44,864
Males ..	172,058	113,926	22,621	19,989	14,179	3,134	150,417	98,644	19,313
Females ..	110,597	118,165	31,111	12,590	14,670	5,316	97,031	102,413	25,551

Both among Hindus and Muhammadans the number of unmarried males is much larger than that of married men. On the other hand, the number of unmarried females is considerably less than the number of married and widowed ones.

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The majority of the unmarried females are under 14 years among Hindus, and under 19 among Muhammadans. With solitary exceptions, every girl gets married sooner or later. But there are several men who cannot afford to get married and have to remain bachelors.

Marriage Ceremonies—Betrothal, etc.

Betrothal is a contract generally between the parents or guardians of the boy and the girl. The perpetual tutelage of women is strongly asserted in the district, and so at no age can a woman enter into a contract regarding her own marriage. There are signs among Muhammadan women of an undercurrent to throw off this perpetual tutelage. There are many cases in which the option of puberty is exercised, and marriages performed by a guardian other than the father or grandfather are set aside through the civil courts. Marriages performed by a father are even attacked sometimes. Again cases of elopement are common among unmarried girls who have attained puberty, and parents then have recourse to the criminal court by filing a complaint of kidnapping or abduction. The same tendency has not been noticed among Hindus. Of course their marriages cannot be dissolved Elopement is however, rare in their case. A grown-up male, however, does sometimes enter into the contract personally if he has no guardians or relations who can act for him. Among the Muhammadans, if a contract of betrothal be annulled at the request of the girl's guardians, they must return the clothes and ornaments presented to the girl at the time of the betrothal, and also pay up any other expenses which the boy's side may have incurred at the time of the betrothal. If, on the contrary, the boy's guardians move to have the contract set aside, they cannot recover the clothes, etc., presented to the girl, but are not liable for any damages. Cases of breach of contract of marriage are thus treated from a purely business point of view. The boy's side spends money on the ceremony, and is entitled to recover it if the other side fails to abide by the contract. On the other hand, the girl's side spends no money on the ceremony, and can claim none. It is a very fair commercial transaction that the girl's parents should refuse to return the presents made to the girl when they do not refuse to give her away in accordance with the contract. Among the Hindus no money is spent on the betrothal ceremony, except in cases of marriage on payment of money, where the money must be refunded by the girl's guardians if they refuse to abide by the contract, and the boy's side is not entitled to recover the money if it refuses to do so. In cases of *watta satta* (exchange) marriage, the annulment of one betrothal annuls all other contracts dependent on it. The custom of accepting consideration for the gift of a girl prevails very largely in this district. Among the Hindus it is the general rule either to take money or to

take a girl into the family in return for a girl given into another family. Cases of *dharm nata*, where no consideration is accepted, are confined to the more prosperous classes. Among the Muhammadans cases of acceptance of cash are rare, but among the poorer classes the girl's guardians no doubt consider that, by making a gift of a girl, they lay the other side under a deep obligation and generally expect some sort of recognition thereof either in the form of a counter-betrothal (in exchange), or direct benefit in some other way.

With slight differences, the formalities observed among the Muhammadans are these—

The boy's father or guardian sends some relative or friend to the girl's father or guardian to get his consent. The boy's father and relatives then go to the house of the girl and take a suit of clothes and some ornaments (if possible) for the girl, with some sweets (sometimes dried fruit as well). They are met by the father and relatives of the girl. The clothes and ornaments are made over to the girl, who wears them. Some of the sweets are distributed, and a formal blessing *(dua kher)* is prayed. In token of acceptance of the request the girl's father or guardian gives a *lungi*, *reta* (red piece of cloth), *pachvera*, or ring, for the boy, and some of the sweets are returned. These sweets are distributed by the boy's relatives when they get back to the boy's house. The betrothal is then complete. Among the Jats the boy accompanies the party to the girl's house.

The contract is revocable any time before the *nikah* (marriage). A contract of betrothal can be revoked without any objection or liability for damages so long as the formal visit to the girl's house has not been made and the clothes and ornaments have not been given to the girl. After this formality, if the boy's side refuses to abide by the contract, it loses the clothes and ornaments presented to the girl, but is not liable to pay any damages. But, if the girl's side revokes the contract, it must return the clothes and ornaments received by the girl, and also pay such expenses as may have been incurred by the boy's side on the betrothal ceremonies, or such damages as may be deemed necessary in consequence of disgrace suffered by it.

In respectable families a contract of betrothal is sometimes made merely by a message from the boy's father or guardian, and an acceptance from that of the girl. No formalities are observed. There are slight differences between the different tribes, and also within the same tribe, as to the articles taken to the girl's house and those given by the girl's parents for the boy. In some cases the boy's friends distribute sweets at the girl's house on the first informal request being accepted ; in others the girl's parents give sweets to the messengers. No scale is fixed as to the

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value of the articles to be given by each side. The essential parts of the ceremony are the formal visits by relations and friends of the boy to the girl's house with a suit of clothes and some ornaments which are made over to the girl, the gift of a piece of cloth or ring by the girl's parents to the boy and the formal prayer of blessing (*dua kher*).

There are three classes of betrothal among the Hindus—

(1) the *dharm* betrothal, where no consideration is taken in return for the gift of a girl ;

(2) *watta satta*, where a girl is promised in return for a girl promised to be married into the family ; and

(3) on payment of money (*takke*), where a cash payment is made in return for the gift of a girl.

In each case the first preliminary is a request for the betrothal by the father or guardian of the boy to the father or guardian of the girl. When the father or guardian of the girl gives his consent, and when it has been settled under which of the above-mentioned classes the contract will fall, the following further formalities are observed :—

Class I.—Dharm betrothal.—A number of relatives of the boy go to the house of the girl (taking nothing with them). The girl's father or guardian meets them with his relatives and gives them some *gur*, fruit (fresh or dried) or dates, and the Brahmin, if present, does Ganesh sthapan (worships the god Ganesh) and reads *Gotrachar*. The *gur* and fruits are taken by the boy's relatives to the boy's house and distributed there. In Tahsil Kot Adu it is also customary to give from Re. 1 to Rs. 7 to the boy's relatives along with *gur* or fruits. In some cases the relatives are not collected on the occasion, and no *gur* or fruits are given by the girl's guardian. Such cases are, however, rare.

Class II.—Watta satta.—There are three kinds of *watta satta*—

(*a*) *amho samhana*, where each party betroths his girl to a boy in the other party's family ;

(*b*) *trebhanj*, where three betrothals are made in connection with one another ; and

(*c*) *chobhanj*, where four betrothals are made in connection with one another.

In this class of betrothal (*i.e.*, *watta satta*) all the parties concerned meet at one place by appointment and enter into the contract of giving the girls one to the other, after which each girl's guardian gives *gur* or fruits to the guardian of the boy to whom his girl is betrothed.

The Brahmin, if present, does the Ganesh sthapan and reads *Gotrachar*. The *gur* or fruits are taken home and distributed. This system must of course encourage early marriage.

Class III.—On payment of money (*takke*).—The first thing done is to settle the amount of money which has to be paid. Some people consider it objectionable to give publicity to the payment of money, others do not mind it. In the first case, the formalities observed in the case of the *dharm* betrothal are gone through, and no mention is made in the brotherhood of the payment of money. In some cases where the parties have not enough mutual confidence, mention is made of the payment in the assemblage. Where publicity of the payment is not considered objectionable, the guardian of the boy goes to the house of the girl with a few relations and trustworthy friends of his own. The girl's guardian names the amount which is generally paid in two insalments: (1) at the time of the betrothal; and (2) at the time of marriage to meet the expenses. The first instalment is paid at the time, and *gur* and fruits are given by the daughter's guardian to the boy's father and relatives. *Gotrachar* is read by the Brahmin.

After the above formalities a betrothal is considered complete and binding. A betrothal cannot be revoked after it has been completed in the above manner unless the conditions on which the contract is made (in classes II and III) are not fulfilled.

Restriction as to Marriage.

Among the Muhammadans a marriage is allowed with any relation outside the limits of consanguinity prohibited by Muhammadan law, and, as a rule, it is considered preferable to marry within one's own tribe, and much more within one's own clan. There are several instances of marriage between members of different tribes, but such connections are looked upon with disfavour, and are not made except for some necessity. It is very common for a man to give his daughter in marriage to his brother's or sister's son. This practice is a safeguard against the property passing out of the family. Among the Hindus, however, a person cannot marry within his own *zat* (clan) so that a man cannot marry a woman who is an agnate of his, nor, on the other hand, can a woman marry an agnate of her father. Any relation of a man through his sister, mother, wife or daughter must therefore belong to a different clan. A man is not supposed to marry outside his tribe or caste, but cases are not uncommon where men of higher caste have married women of lower caste. The practice is very common among the Hindus to marry *marechi* women from Marwar (who are Sudras), and are actually purchased for money. The practice cannot very well

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be stopped as the women are, as adults, willing parties to the transaction, and give no clue to their residence, etc., and it is difficult to secure convictions in court. Some cases have of course been successful. There has been no restriction hitherto as to the age at which a marriage could be considered valid.

Wedding Ceremonies.

The only binding ceremony which completes the marriage among the Muhammadans is the *nikah*, performed with all the formalities of Muhammadan law. The chief formalities are the asking of the consent of parties (*ijab kabul*) before two witnesses and the fixing of the dower. The other ceremonies connected with a marriage (*vivah*) are not indispensable. The usual procedure at a wedding is as follows: The marriage procession (consisting of the bridegroom, his relatives, male and female, and friends) reaches the bride's house some time in the evening. The *nikah* takes place at night (and sometimes on the following morning), after which the bride is dressed in clothes presented by the bridegroom's guardian, and the bridegroom in clothes presented by the bride's guardian. *Til* and sugar are then distributed. The procession returns in the morning with the bride.

As regard the Hindus, the forms of marriage prescribed by Hindu law are not generally known. The ceremonies observed at a marriage are these: The marriage procession (consisting of the bridegroom, his relatives and friends, and one female relative of the bridegroom generally his sister) reaches the bride's house early in the evening. On the way the bridegoom cuts a twig of *jandi* (*Prosopis spicigera*); and, if there is no *jandi* (*kanda*) tree near the way, a *jandi* twig is brought and fixed on the way to be cut by the bridegroom. On arrival of the marriage procession, the first ceremony performed is that called *pish kara*, which consists of an exchange of courtesies between the bridegroom and bride's father or guardian, each anointing the forehead of the other with paint (*tilak*). The bride (*kuwar*) and bridegroom (*ghot*) are then seated on *kharas* (baskets placed upside down) in the *bedi* (a small canopy prepared for the occasion), and a bali of kneaded flour is placed between them ; the bride and bridgroom join their right hands, and the Brahmins, who are seated around the *bedi*, read the *paddhati* (ritual). This ceremony is called *hathleva*. The *kanya dan* next takes place, the bride's father or guardian making a gift of the girl to the bridegroom by taking a handful of water. The *lawan* ceremony is then performed, the pair with their dresses tied together circumambulating the *havan* (sacrificial) fire three times. The bride then changes her dress, and food is served to the guests ; after which the marriage procession returns with the bride, the female relative of the bridegroom

who came with the procession accompanying her back to the bridegroom's house.

The principal ceremonies are the *kanya dan* and *lawan*. According to an account in an old Gazetteer marriages are arranged on two principles. An exchange of brides is effected, this is called *watta*, or money is paid for a bride. Money marriages are called *Allah nami* marriages ; but, as the people themselves admit, the name is a fiction. A few persons do not receive money for girls. They are not looked on with commendation, but are ridiculed as parting with a valuable property without receiving an equivalent. There are no forms of betrothal. The relations manage the matter without the intervention of go-betweens, such as *nai* or *mirasi*. From reading the accounts given by residents of this district, it would seem as difficult to arrange an engagement as to make a treaty. Even after everything is settled, the mothers of the parties meet, and have a long talk in which they pretend to be personally anxious for the marriage, but put forward every obstacle that can be imagined. These are gradually explained away until the aversion of their husbands to the match alone remains. After discussing the obstinacy and perverseness of the husbands, one gives the sign of giving way by saying; "Well, I suppose we must put compulsion on these stupid men." After that all hinderances disappear like smoke. All the conversation at these mothers' meetings is as well known beforehand as the questions and answers of a catechism. When the engagement has been settled, the bridegroom's friends take the following clothes to the bride :—

> A sheet—*bhochhan* or *chunni*—a *chola* and a petticoat.

Custom varies as to whether the bridegroom should accompany these presents.

The following ornaments are also given :—

> A pair of *kangans* or bracelets, a *hassi*—a solid necklace—and a *mundri* or ring, with a *patthi*, or sort of shield, on it.

The *kangans* and *hassi* are not given by poor people, but the *mundri* and *patthi* are *de rigueur* ; and, in the opinion of the women, no betrothal is complete unless the *mundri* and *patthi* are given. To get a bride by an *Allah nami* marriage cannot cost the bridegroom less than from Rs. 70 to Rs. 100 at the very least. The actual ceremonies of marriage consist of two parts: (1) the *nikah*, or wedding ceremony according to the Muhammadan ritual; and (2) the ceremonies which are not connected with the religious rite. These last are all known by the general name of *sagan*, and are very interesting; some are directly borrowed from the Hindu ritual. In

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others, remnants of the time when marriage by capture prevailed can distinctly be traced. Others are connected with the personal adornment of the bride and bridegroom. A marriage consisting of the bare *nikah*, and without any of the usual ceremonies, is colled a *dangera*, which means a kicking-strap tied on a cow while milking. The term is sufficiently expressive. A few days before the marriage the plaits of the bride's hair are solemnly opened by the most-honoured women of both families. Her body is rubbed with *chikun*, a mixture of tumeric, barley flour and sweet oil, to increase her personal beauty. With the same object she is bled. The bride is furnished with an iron knife, and she is never allowed to be unaccompanied by a female friend. Similarly, for two days before the wedding and during the wedding the bridegroom is armed with a knife or sword, and a friend of the same age as the bridegroom is appointed to accompany him day and night. This companion is called *sabala* or *anhar*. This custom is evidently a relic of marriage by capture, the bride's arms and companion being intended for defence, and those of the bridegroom for aggression. On the day fixed for the marriage the bridegroom's party, called *janj*, proceeds to the bride's house. The *nikah* is read by the mullan. New clothes are then sent by the bride to the bridegroom, and by the bridegroom to the bride. Then the bridegroom, taking a pillow under his arm and accompanied by his *anhar*, proceeds to the bride's house. On the threshold is an inverted *chhuni* or lid of a *ghara*, underneath which is a rupee, 8-anna or 4-anna piece. Before entering, the bridegroom stamps on the *chhuni* with his foot. If he fails to break it, he gets well laughed at by the women. The potter, and among Magassi Biloches the barber, appropriates the coin. The breaking of the *chhuni* represents the demolition of the last defences of the bride's party. After the bridegroom has entered the bride still offers a show of resistance. The bridegroom first lifts her by force from the seat on which she is to another. Then she presents her closed fist to him in which is a lump of *gur*. This, after pretended struggles, he forces from her, and the bridegroom's victory is complete. Then follows the *sir mel*, or joining of heads, which represents the consummation of the marriage, though this does not actually occur until the bride reaches the bridegroom's house. The *sir mel* is usually performed simply by the chief women of the bridegroom's family holding the heads of the bride and bridegroom together. Among persons of position the *sir mel* is effected as follows: The *anhar* leads the bridegroom to the spot where the bride is sitting with her hands over her face and a Kuran before her. The bride's companions give the bridegroom leave to uncover the bride's face. He does so. The bride's glance should first fall on the Kuran, then on her husband. Then follow a number of

ceremonies, most of which are taken from the Hindu ritual, and some of which point to abundance and increase. The bride and bridegroom are seated on a basket. Their clothes are knotted together, and the *mirasin* places the knot seven times on the head of each while she sings the verses appointed for the occasion. This ceremony is called *lawan*. Then the *mirasin* places a flock of cotton on the bride's head. The bridegroom blows it away seven times. This is called *phul chunan*. Then the bridegroom holds his hands open and joined together with the palms upward. His hand are filled with flour, *til* or salt. Underneath his hands are placed the hands of the bride. He allows the flour or salt to run from his hands into the bride's. Then the bride runs it into his hands. This is done seven times, and is called *til vetre*. By this time the night is well advanced and the bridegroom's party returns home, taking the bride and a female friend. Sometimes the bridegroom's party does not return home till the next day. The bride remains seven days in her husband's house. These seven days are called *sattovara*. After this she returns to her parents' house for a time.

It may be asked which of the ceremonies described would, if proved to have occurred, be conclusive evidence of the often-disputed fact of a betrothal and of a marriage willingly made by the bride. Of course every part of the ceremonies would be corroborative evidence ; but, if it were proved that a woman received her *patthi* and *mundri*, the betrothal may be admitted to be complete, and, if the *sir mel* be proved to have taken place, the marriage may be accepted as an accomplished fact. More weight is really attached to the *sir mel* than to the *nikah*, which is generally done most perfunctorily as far as the woman's consent is involved. *Dhangera* or "kicking-strap" marriage, if denied by the bride, should be looked on with the greatest suspicion by a civil court.

Child Marriage.

A marriage ordinarily takes place when the parties have attained the age of puberty. The girl is usually between 12 and 16 years, and the boy between 15 and 20. Cases of marriages taking place much earlier are, however, not rare. The Muhammadans do not ordinarily give a girl away in marriage before she is 12, and the Hindus do not till she is 7. years old. But figures in table 10 show that among both Muhammadans and Hindus there is a number of cases in which children under 5 years of age are married. These child marriages generally take place in well-to-do families. In such cases, however, marriage is not consummated till the parties have grown up. The *watta satta*, or exchange system, is a fruitful cause of child marriages as the parties are often of very unequal age. It also leads to odd relationships, *e.g.*, when a man marries his daughter to another, and

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in exchange gets a daughter as his own wife! The Act recently passed by the Indian legislature should end child marriage, and do a great deal of good.

Polygamy.

A Muhammadan is allowed to marry four wives, all alive at one time, and there is no limit to the number of wives a Hindu may have. It is, however, usual for a man to have only one wife at a time. Among the Muhammadans the richer people almost invariably have more wives than one, and they often go up to the full prescribed limit. In some cases even that limit is exceeded. A poor man, however, does not marry a second time during the lifetime of the first wife unless she has not borne him a son, or he has to provide for his deceased brother's wife, and rarely in the case of a serious quarrel. The custom of the Labana Sikhs is similar to that of the ordinary Muhammadans. Among the Hindus a man marries a second time only if the first wife has not been lucky enough to bear him a son, or if there is unevenness between the husband and wife or their guardians. When a Hindu takes a second wife, he generally sets a house apart for the first wife, who lives practically in seclusion, getting a maintenance from her husband.

Divorce.

Divorce is, as a rule, peculiar to the Muhammadans. The term is not known among the Hindus. Cases of divorce are rare even among the Muhammadans, and such of them as do occur are generally confined to the lower classes. Under Muhammadan law, which is followed in this respect, a wife may be divorced for bad character, disobedience or blasphemy. A husband may divorce his wife without assigning any cause, and such cases are known to have occurred. A change in the husband's or the wife's religion dissolves marriage among Muhammadans, but not among Hindus.

A divorce is performed by the husband addressing his wife in the presence of two witnesses and saying "I divorce you." If this is said once or twice, the woman can be remarried to her former husband. But, if it is repeated three times, the divorce becomes irrevocable. She cannot then remarry the former husband unless she has married, and been divorced by, another man.

The term *khala* is not known. *Lunda* is the name of the divorce in which the wife obliges the husband to give her up. She relinquishes her right to a dower, and sometimes pays a sum to the husband in consideration for his agreeing to divorce her.

Widow Marriage—*Karewa.*

Widow marriage is authorized by Muhammadan law, and is common among the Muhammadans. It is celebrated by the reading of *nikah*. The *vivah* ceremonies are omitted.

The custom is not generally recognized by the Hindus, but it is gaining ground. Labana Sikhs practise it, and the ceremony is called *karewa*.

On the death of a husband his widow usually marries his brother, if any. If there is no brother of her deceased husband, she can marry someone else in the brotherhood. This is called *karewa* or *chadar dalna*. The ceremony consists of the man and the widow being seated in one place and a cloth sheet belonging to the man being put over them. *Ardas* (prayer) is read and *ghunghanis* (boiled grain and sugar) are distributed. The difference betwween *karewa* and a first marriage is that in the latter the Brahmins are invited and religious rites are performed by them in the *bedi*, while no such thing is done in the former case.

Polyandry.

Polyandry is not permitted by any tribe in the district.

Intermarriages.

Sayyids and Koreshis are considered as superior castes to the others. Sayyids do not, as a rule, give their daughters to others than Sayyids and Koreshis. Biloches, Pathans and Jats have a natural aversion to intermarriage. Jats are considered the lowest of the main tribes. The custom generally is that a marriage outside the tribe will disentitle a daughter to inherit her father's estate if it is ancestral, and this must of course prevent intermarriage to any great extent.

Among the Hindus a woman loses her *got* on marriage and acquires that of her husband. The same custom exists among Muhammadans, but a wife coming from a higher caste, or sometimes even from a lower caste, is called by her original caste, thus Pathani, Sayyidani, Sheikhani or Jatti. For instance, if a man has three wives, one having come from a Biloch family, another from a Jat family and the third was the daughter of a Sheikh, people will, when talking of the wives of this man, refer to them as his Jatti wife or Sheikhani wife. This is, however, for convenience of reference, and she is not supposed to retain her own *got*. Her offspring also belongs to the caste or *got* of her husband.

Traffic in Women.

Women are brought into the district from Jammu, Marwar, the United Provinces, Amritsar, Lahore, Jullundur and Gurdaspur either by their own relations or by bad characters. They are supposed to be Hindus, and are bought by the Hindus of the district who cannot find wives in their own brotherhood. Sometimes the women turn out to be Muhammadans. Hitherto the Hindus did not consider it an offence to buy a woman and used to make no secret of it, but, some of the cases having been hauled up to court, the practice is not done openly. The matter has been referred to earlier. No special ceremonies are observed at these marriages. Sometimes the

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ordinary marriage ceremonies are quietly gone through, and on other occasions no ceremony whatever takes place.

Inheritance through Mother.

The general custom is that sons succeed their parents, excluding daughters, who are entitled only to maintenance or marriage expenses. If there be no sons, widows succeed as life tenants. After a widow's death, if there is a daughter, she will succeed, but, in case of ancestral land, in order to exclude collaterals, she must have married a collateral, or at least in the tribe of her father. If there be no daughters, brothers of the deceased or their descendants succeed ; and, in default of brothers or their descendants, sisters and their descendants come in. In default of sisters and their descendants, inheritance devolves on collaterals. Custom in the Leiah Tahsil favours collaterals in preference to daughters, but the general tendency is more and more in favour of female succession in preference to collaterals.

Mr. J.D. Anderson, Settlement Officer, prepared a volume on the "Customary Law of the District."

Female Infanticide.

Female infanticide is unknown in this district.

Language.

The language spoken by the bulk of the population is called by them Jatki, which is also spoken in Multan, Bahawalpur, Dera Ghazi Khan and the south of Mianwali and Jhang. It belongs to the southern group of Lahnda. There is an interesting account of it in volume VIII, part I, pages 233—240 and 301—310 of the "Linguistic Survey of India." In the Bilochi-speaking parts of Dera Ghazi Khan it is known as Jagdali. It has been named Multani by Europeans. It resembles Punjabi and Sindhi, but differs from both in many particulars. The case-endings agree partly with Sindhi and partly with Punjabi, while some are peculiar to it. It resembles Sindhi, Pashto and Persian by using an intricate system of pronominal suffixes from which the sister dialects of India are happily free. The inflections of the verb are peculiar, and differ bothe from Sindhi and Punjabi. Multani excels the Indian dialects, and resembles Sindhi in having a passive voice, instead of being reduced to the clumsy compound with *jana*, to go. *Marindan*, I am being beaten, is much handier than the Hindustani *main mara jata hun*. Multani is a pure Sanskritical language. It contains many Sindhi and Punjabi words, and has a copious vocabulary of its own. It has an abundance of grammatical forms which show that it is in an inferior state of development. Like all languages spoken by a rude people, Multani is extremely rich in concrete, and absolutely without abstract, words. Mr. O'Brien published a "Multani Glossary," which is a perfect mine of proverbial and other folk-lore. This book has been re-edited and rearranged by Mr. J. Wilson, C.S.I., and Pandit Hari Kishan Kaul in a form more useful for reference

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and a grammar of the dialect, as spoken in Multan and Muzaffargarh, written by Mr. Wilson, has been added to it. The dialect of the Thal differs somewhat, but not to a material extent, from that of the Indus valley.

Literature.

There is a large amount of unwritten poetry, songs, proverbs, riddles and aphorisms which throw great light on the national customs and thought. Whenever Jats collect, they spend a great part of the night in singing *dorhas*, or couplets. To be able to quote an appropriate proverb will send away a Jat laughing, and make him forget his imagined troubles. A volume of Multani stories was published in 1917 by Mr. F. W. Skemp, I.C.S. (now Mr. Justice Skemp).

Caste.

Caste, as a religious institution, does not exist among the Muhammadans, all followers of the Prophet being treated as equal from a religious point of view. The word *zat*, which is the equivalent of caste, is, however, used to denote the clan; and within a clan strong social feelings and prejudices are known to exist. The institution of caste prevails among the Hindus. The Brahmins, the Khatris and the Aroras exist as separate castes. There are no Sudras to be found. The restrictions of caste are, however, much less stringent here than in the central or eastern districts of the Punjab, and the Arya Samaj is steadily gaining ground and removing the restrictions more and more.

Tribes.

With the exception of menials who are known by their respective professions, and fresh converts to the Muhammadan religion who are known as Sheikh, the Muhammadan population is divided into distinct bodies known as tribes (*kom*), each supposed to be descended through males from a common ancestors. The main tribes of the district are the Jats, Biloches, Pathans, Sayyids and Koreshis. Although intermarriage between the tribes is considered legal, yet marriages are generally confined within a tribe, and, when an intermarriage takes place, the woman severs her connection with her tribe place, the woman severs her connection with her tribe so that the integrity of her husband's tribe is not affected. Intermarriage has already been dealt with. Among the Hindus the caste is, in vulgar parlance, called *kom* or tribe. For instance, a Hindu will state his *kom* to be Arora or Khatri in the same way as a Muhammadan will profess to belong to the Jat or Biloch *kom*.

Clans.

There are sub-divisions within each tribe known as *zat*. A Jat may be a Hinjra, Angra, Khar or the like. He will call himself a Jat, Hinjra, Angra or Khar. These are only narrower groups of agnates descended through males from a less remote ancestor. Among the Hindus too the sub-divisions of caste have come to be known as *zat*. An Arora, for instance, is a Utradhi, Dahra or Dakhna, and then he may be a Nangpal, Kukreja, Manaktahlia or the like. He will

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state his *zat* to be a Nangpal and his *kom* to be Arora. It is very common to call a man as belonging to a particular clan, *e.g.*, Yar Muhammad Hinjra, Karimdad Mahra, Gahna Diwala, Hotu Nangpal, Asa Kukreja.

Family.

A family known as *jhugga* or *ghar* is a group of agnates descended from a common ancestor within a few generations which maintains its family ties in some tangible form. The *jhugga* includes the agnates descended through males only, all females going out of the family directly they are married into other families. The agnatic family is supposed to be the basis of the clans and tribes as they now stand.

Strength of Tribes.

Statistics of the numerical strength of each tribe and its sub-divisions are given in table 15 of volume B. The total number of persons belonging (as ascertained at the census of 1921) to the principal tribes is given below for facility of reference:—

Name of tribe.	Population.
Muhammadans—	
Jat (including Rajput)*	211,191
Biloch	108,413
Pathan	3,746
Sayyid	11,222
Koreshi	4,472
Hindus—	
Aroras†	52,532
Aryas	1,352
Brahmins	2,758
Khatris	1,395
Labana Sikhs	2,242

It would be unnecessary to attempt a description of each tribe. Many of them are found all over the Punjab and most of them in many districts; and their representatives in Muzaffargarh are distinguished by no local peculiarities. Some of the leading tribes, and especially those who are

* Includes some Hindus and Sikhs probably.

†Includes some Sikhs.

important as landowners by position and influence, are noticed briefly in the following paragraphs:—

Distribution of Tribes.

The Jats, who own the largest amount of land, are spread all over the district. The Rajputs are found mainly in the Alipur and Muzaffargarh Tahsils. The Biloches are strongest in the Alipur Tahsil, and decrease in number in the tahsils from south to north. The Hindus rank third in importance, and are scattered throughout all four tahsils. There is a group of Sayyid villages at the south of the Alipur Tahsil, and Sayyids also own land in other tahsils. The Pathans have a strong settlement round about Muzaffargarh, and own one village in the south of the Kot Adu Tahsil and another in the Alipur Tahsil. The Koreshis have a few villages in each tahsil.

Agricultural Tribes.

The following tribes have all been notified as agricultural under the Punjab Alienation of Land Act, *viz.*, Jat, Rajput, Biloch, Pathan, Sayyid, Koreshi and Awan; Arains, who are reckoned in this district as Jats, have also been separately notified. Although the qualification Muhammadan has not been given in the notification, yet this is what it comes to as there are few, if any, Hindu Jats or Rajputs in the district.

Jats and Rajputs.

On the meaning of the word "Jat" in Muzaffargarh, Mr. O'Brien wrote as follows: "In this district the word 'Jat' includes that congeries of Muhammadan tribes which are not Sayyids, Biloches, Pathans and Koreshis. According to this definition, Jats would include Rajputs. This, I believe, is correct. The Jat regiments have always been recruited from the Rajputs. There is not a Jat in the district who has any knowledge, real or fancied, of his ancestors who would not say that he was once a Rajput. Certain Jat tribes, as the Panwar, Parihar, Chhajra, Daha, Guraha, Bhatti, Massan, Bhutta, Sahu, Sial, Jangla and others have names and traditions which seem to connect them more closely with Hindustan. Some bear the Rajput title of Rai, and others as the Saigals and Kheras, though Muhammadans associate a Brahmin with the mullan at marriage ceremonies, while the Panwars, Parihars, Bhattis, Joiyas and others bear the names of well-known tribes of Rajputana. The fact is that it is impossible to define between Jats and Muhammadan Rajputs. And the difficulty is rendered greater by the word 'Jat' also meaning an agriculturist, irrespective of his race, and 'jataki' agriculture."

The Jat tribes are exceedingly numerous. They have no large divisions embracing several smaller divisions. Nor do they trace their origin to a common stock. No tribe is pre-eminent in birth or caste. Generally, Jats marry into

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their own tribe, but they have little hesitation in marrying into other tribes. They give their daughters freely to Biloches in marriage. But the Biloches say that they do not give their daughrers to Jats. This is, however, a Biloch story; many instances of Jats married to Bilochnis could be named. The best-known Jat tribes are the following: On the right bank of the Chenab are settled the Khera Sials, who call themselves Rajputs, with their branch the Surbanas, the Traggars, the Thahims and Chhajras. In the Leiah Tahsil are the Lohanch and Sumra. In the Kot Adu Tahsil are Parihars, Panwars, Gurahas, Hinjras, Makwals and Pattals. In the centre of the district are Metlas, Makwals, Bhuttas, Diwalas and Mahras, and near Kinjhar the Dhanotr and Jangla tribes abound. On the bank of the Indus, and in the south of the district, the Biloches become more numerous, and the majority of the Jats have a Sindhi origin, shown by their bearing the title of Jam. Of these Sindhi Jats are the Dammar, Unnar and Sarki tribes. The leading men among the Rajputs are Mehr Zulfikar, District Darbari and Lambardar, and Mehr Haq Niwaz, Divisional Darbari and Zaildar, of the Traggar tribe near Rangpur. The leading Jat families are those of M. Allah Bakhsh Hinjra, Zaildar; M. Mahmud, Hinjra, Zaildar and Divisional Darbari; Khan Bahadur Makhdum Ghulam Kasim Makwal, Provincial Darbari and custodian of the shrine at Daira Din Panah; M. Fatteh Muhammad Khar, Divisional Darbari, whose son (M. Muhammad Yar) is now Zaildar; M. Ghulam Muhammad Jangla, Zaildar; Hafiz Muhammad Dammar, Zaildar; Jindwadda Panuha, Zaildar; Makhdum Ghulam Mustafa, Zaildar of Mondka and Honorary Magistrate (of Pir Jahania shrine); S. Allah Bakhsh Thahim, Zaildar and Divisional Darbari; Muhammad Ibrahim, minor son of the late Khan Sahib M. Ghaus Bakhsh; Mehr Allah Bakhsh Lohanch, Zaildar; Malik Allah Bakhsh Jhakkar, Zaildar and Sub-Registrar, Leiah; and M. Qadir Bakhsh Jhakkar, Pleader and some time Vice-Chairman, District Board.

Biloches.

The Biloches differ little from the Jats, with whom they have freely intermarried and mixed, and with whom they live. The tribes are numerous, but have no arrangement into Tumans and Phallis like the Biloches on the frontier. No tribe is pre-eminent on account of descent. The only common bond is the name Biloch. In the south of the district the distinctive Biloch dress of a smock-frock reaching to the heels and the long curly hair may occasionally be seen, especially among the Drishaks; but, as a rule, a Biloch cannot be distinguished from a Jat. In this district they cannot even boast that they excel in the standard Biloch virtues of hospitality, want of industry and robbery. Certain tribes, as the Surhanis, Ghazlanis, Gopangs and

Chandias, have the worst of characters, but they are no worse than the neighbouring Jats. None understands the Biloch language. Biloches are found generally throughout the district, but are more numerous on the bank of the Indus and in the south. Their chief tribes are the Chandias (Risaldar Ghulam Haidar Khan, Safedposh, is the most important); the Gurmanis (among whom Mian Mahbub Ali, Zaildar and Honorary Magistrate, III class, and Mian Mushtaq Ahmad. Divisional Darbari, his cousin, are the leading men); the Gopangs (the chief of whom are Haji Jan Muhammad Khan and his son Nawab Khan, Zaildar); the Jatois (among whom Khan Bahadur Sardar Kaure Khan, who left the district board a large estate, will always be remembered; his nephew Said Khan is now a big landowner, and there is also Nasir Khan Jatoi, Zaildar); the Lagharis (Mir Hazar Khan, Zaildar, has recently died at the age of about 100 years, and his son Muhammad Khan is now Zaildar); the Mastois and Drishaks (of whom Ali Muhammad Khan, Zaildar of Khanwah, is an important man). The Jaskanis and Laskranis in the Leiah Tahsil are important. The most noteworthy family is that of the Jaskanis of Basti Shadu Khan. The history of the Jaskani rulers of Leiah has been sketched in chapter I-B. The direct descendants of Fatteh Khan and of his grandson Muhammad Khan, who was the last independent Jaskani chieftain, do not live in this tahsil. Two other branches have, however, descended from Durgai Khan, the second son of Biloch Khan, the Blind. Durgai Khan left two sons, Shadu Khan and Hayat Khan. The descendants of the latter are still in existence in this tahsil, being settled at Khokhar Israi. The descendants of the former son are at Basti Shadu Khan, and the present head of this line is Ataullah Khan, Zaildar and the senior Divisional Darbari of the District. His great-uncle Lashkar Ali Khan served under Sir Herbert Edwardes during the Multan campaign, while his grandfather Muhammad Raza Khan served during the Mutiny as a jamadar of levies at Bannu.

Distinguished. Families and Individuals of note—

(i) Jaskanis of Basti Shadu Khan; and

Another interesting family connected with the Jaskani rule is to be found at the village of Jhok Hassan Khan; its members are the descendants of Hassan Khan Laskrani, the ambitious wazir of Fatteh Khan who for a time supplanted his nominal master.

(ii) Laskranis of Jhok Hassan Khan.

The Sayyids are chiefly Bukharis and Gilanis. There are other less-known divisions as the Hussaini, Maududi and Shamsi. Historically, the best known is the Sayyid family of the Makhdum of Sitpur, who at present is Khan Sahib Makhdum Muhammad Hassan, Provincial Darbari and Honorary Magistrate, I class, etc.; and for sanctity that of Diwan Muhammad Ghaus, etc. (under the Court of Wards, Multan), the keepers of the shrine of Alam Pir at Shahr

Sayyids.

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Sultan. Both these are Bukhari Sayyids. The Kahiris in the Kot Adu Tahsil prefer to be Sayyids, and call themselves Shah, but their claim is not generally admitted. They are very good cultivators, which gives a blow to their pretensions for the Sayyids here are more noted for rapacity than industry. It should be mentioned here that the keepers of shrines, whether Sayyids, Koreshis or other tribes, are styled Makhdum. Shah Muhammad Shah, Sayyid of Shahpur village in the Leiah Tahsil, was the hereditary *pir* of large numbers of Biloches of the Dera Ghazi Khan District; his grandfather Muhammad Zaman Shah rendered conspicuous political services in the Bilochistan Agency. His ancestors used in former days to receive large allowances from the Amirs of Sindh. Shah Muhammad Shah has died leaving many sons, of whom the eldest is Mauj Darya Shah. Ghulam Haidar Shah, Zaildar of Alidaha, another Sayyid, is an Extra Assistant Commissioner.

Pathans.

The Pathans came to this district, as already described, at the end of the previous, and the beginning of the last, century. Their present representatives are of the Alezai, Babar, Tarin, Baddozai, Bamozai and Yusufzai tribes. The members of the family of Nawab Faujdar Khan, C.S.I., and Nawab Hassan Khan, C.S.I., of the Alezai tribe, are *jagirdars* and owners of Lalpur in the Muzaffargarh Tahsil, but they live at Dera Ismail Khan. The Babars own most land. Their chief representatives are Nawabzada Muhammad Abdullah Khan, Honorary Magistrate, II class, and his brother Nawabzada Faiz Muhammad Khan, a Naib-Tahsildar. Two younger brothers are wards of the Collector, and one of them, Nasrullah Khan, is in the Aitchison Chiefs' College, Lahore. The Tarins live in the Kot Adu Tahsil at Khuhawar. The only Tarin of note is K. Muhammad Saifullah Khan, Zaildar and Divisional Darbari. K. Muhammad Asad Khan of Khokharwala, District Darbari, is an Alezai.

The Popalzai Pathans of Docharkha came into this district from Kabul towards the end of the eighteenth century. The head of the family was Jahan Khan, one of the leading sirdars at the court of Ahmad Shah and Taimur Shah; one of his grandsons, Ghulam Rasul, married a daughter of Fatteh Khan Jaskani, and settled at Docharkha in the Leiah Tahsil, which was granted to him by her father. Nasar Khan, the brother of Ghulam Rasul, was a distinguished leader in the local wars during the Sikh rule; later, he served under Sir Herbert Edwardes in the Multan campaign, and also as a Risaldar during the Mutiny. He lived to a ripe age in the enjoyment of a Government pension of Rs. 1,440 per annum.

A grandson of this fine old soldier, Ghulam Kadir Khan, is a retired Sub-Inspector of Police, and holds the lambardari

of the village. Nasar Khan's other brother, Ghulam Muhammad Khan, has left numerous descendants, among them the late Kadir Dad Khan, who served as a Daffadar in the 15th Cavalry in Afghanistan, and the late Khaliq Dad Khan, who served as a Subadar in the 1st Biloch Regiment. Abdullah Khan, Lambardar, Nurewala, and Faizullah Khan, Lambardar, Docharkha, now represent the family.

Koreshi Families.

The Koreshis, though numerically small, deserve notice on account of their sanctity and present influence and wealth. The Koreshi family which now owns land near Karim Dad Koreshi and Gujrat says that it received land from a king of Delhi, and that its ancestors were counsellors and servants of the Dera Ghazi Khan and Bahawalpur nawabs and of Diwan Sawan Mal. There is nobody of any real importance in the family now. A Koreshi family owns Thatta Koreshi and the neighbourhood on the bank of the Chenab between Muzaffargarh and Khangarh, the principal men being Sheikh Fazl Karim Bakhsh, Sub-Registrar, Muzaffargarh, who has married the daughter of Mr. Justice Zafar Ali, retired; and his nephew, M. Muhammad Bakhsh, Zaildar, who has married the daughter of Khan Bahadur Mirza Asghar Ali, Assistant Inspector-General of Civil Hospitals, Punjab. They own much land, and are well off. There are also Q. Sheikh Ahmad, District Darbari, son of the late Khan Bahadur Q. Ghulam Murtaza, Extra Assistant Commissioner, Sheikh Ghulam Rasul, Deputy Superintendent of Police, and M. Khuda Bakhsh, Zaildar of Sheikh Umar.

Jhabels, Kihals and Mors.

Of the other Muhammadan tribes, the only ones worth mentioning are the Jhabels, Kihals, Mors and Kutanas. The Jhabels came originally from Sindh; they cannot tell how long ago, but it is remarkable that of all the tribes of the district they alone speak pure Sindhi. They are also addressed by the honorific title of Jam. They live mainly by fishing, gathering *pabbans* and making baskets, but many have taken to agriculture. They are reckoned good Muhammadans. The Kihals and Mors are said to be one tribe. In the north of the district they are called Mor, eat crocodiles and tortoises, and no Muhammadan will associate with them. In the south they do not eat these reptiles, and are considered good Muhammadans. Kihals and Mors live by fishing, but some have taken to agriculture. They, as well as the Jhabels, are fond of cultivating *samuka*. These tribes live separately in villages near the rivers.

Kutanas.

The Kutanas are said to be Chuhras converted to Islam. The derivation of the name Kutana is not known. In the vernacular it is spelt Kurtana and pronounced Kutana. They live by cutting reeds and grass, and by making thatched roofs, ropes, reed huts and other reed-work.

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Hindu Tribes.

Of the Hindus, the Aroras (called also Kirars) are the most remarkable. They claim to have been Khshatris, who became outcastes during Pars Ram's persecution of the Khshatris. The ancestors of the present Aroras fled to Kirat Prashtha. They are divided into three main tribes—Uttaradhi, Dakhana and Dahra. The Uttaradhis and Dakhanas say that they were so named because they fled from Pars Ram to the north and south, respectively. The origin of the name Dahra is not known. Each main tribe is divided into numerous sub-divisions the nomenclature of which defies classification. A few sub-divisions, such as the Mate and Goraware, are found in all the three main tribes. In Alipur the Malotra are found only in the Dakhana and Dahra tribes, and the Sachdev are found only in the Uttaradhi tribes. The Kantror is found only in the Uttaradhi. In this district there are more sub-divisions of Dakhanas than of other tribes. The sub-divisions of each tribe intermarry, but the tribes do not intermarry. Uttaradhi Chaolas will not marry Dakhana Chaolas or Dahra Chaolas, and *vice versa*. Almost the whole of the trade, money-lending and banking is in the hands of these Aroras. They have no prejudice against any kind of work, and will sell vegetables or shoes, load donkeys and do other work which an orthodox Hindu would refuse. They own plenty of land now, and in some places they are regular agriculturists. Some individuals or families, such as the Nangpals of Gurmani and the Bajajes of Gujrat, are considerable landowners. Chaudhri Amolak Ram, Bajaj, of Gujrat, was a zaildar, but resigned recently and has been succeeded by his son Chaudhri Parma Nand. Chaudhri Parma Nand of Nawankot is also a zaildar. Chaudhri Balak Ram, Safedposh, has recently died, leaving minor sons. Rai Sahib Piyare Lal of Rangpur is a leading advocate of Muzaffargarh, and president of the Municipal Committee, Muzaffargarh; and there are many others. These Aroras make very good zamindars. In correspondence and accounts they use a peculiar character called *Kirakki*. They have all the merit of thrift and industry, and are generally trusted by their Muhammadan neighbours. The earlier Muhammadan rulers seem to have behaved with toleration to them. The Hindu revival, led by Shamji, Lalji and Sanwal Shah, took place while the Ghazi Khans were rulers. Latterly, however, they were very badly treated. Their system of banking, etc., is dealt with in chapter II.

Labanas.

The Labanas settled here during the rule of the Sikhs, whose religion they still profess. Their chief occupation is rope-making. Some have become rich, and trade and lend money; a few have taken to agriculture, and make industrious cultivators.

Brahmins.

The Brahmins are either Sarsuts or Pushkarnas. They are in a state of insignificance, socially as well as religiously. Generally ignorant, few have even knowledge enough to perform a Brahmin's ritualistic duties.

None of the other Hindu tribes calls for special notice, but a few of the chief families may be noted—

The family of Shamji Gosains, resident in Leiah town. The head of the family was Udhe Bhan, Honorary Magistrate, who died recently, and has been succeeded by his grandson, Gobind Lal, who is a lambardar and safedposh.

The late Rai Bahadur Tilok Chand, I.S.O., settled at Leiah during the last few years. The family belongs to Ahsanpur in the Kot Adu Tahsil. Under the Sikh rule they had considerable influence in the Kot Sultan, Leiah, Daira Din Panah and Kot Adu *ilakas*, Rai Lekhu Ram, grandfather of Tilok Chand, rising to the position of Diwan, which he held for some time under the Governor of Sanghar. Tilok Chand served Government for 36 years in various capacities from Naib-Tahsildar to acting Deputy Commissioner; he also served for many years as an honorary Magistrate, I class, and died recently, leaving sons in responsible Government appointments. Lala Harkishan Lal, for some time a minister in the Punjab Government, belongs to Leiah. The late Diwan Tek Chand, I.C.S., Commissioner in the Punjab, belonged to Sitpur. His son is Diwan Khem Chand, Bar.-at-Law, of the Model Town, Lahore, and the former's brother is Rai Bahadur Diwan Khilanda Ram, Public Prosecutor, Multan. Other Hindus of this district are holding prominent positions in Government service.

Primogeniture.

The rule of succession by a single heir in each generation has been declared under the Descent of Jagirs Act to apply to the *jagir* of Nawab Rabnawaz Khan, Lieutenant-Colonel Muhammad Nawaz Khan and Muhammad Sarfaraz Khan in the village of Lalpura (*vide* Punjab Government notifications Nos. 81-A. to D., dated the 13th May 1904), all of whom have now died. The *jagirs* now stand in the names of Nawab Allahdad Khan, son of Rabnawaz Khan, Haq Nawaz Khan, son of Muhammad Sarfaraz Khan, and Ghulam Naqshband Khan, grandson of Muhammad Nawaz Khan.

Religion.

Table 16 in volume B gives figures relating to religion. The distribution of the population, by religions, according to the census of 1921, is given below:—

Hindus	69,878
Sikhs	4,869
Muhammadans	493,369
Christians	356
Jains	6
Total ...	568,478

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This is principally a Muhammadan district, more than 86 per cent. of the population following the Muhammadan religion. Most of them are Sunnis. A few of the Sayyids and members of other tribes connected with them, however, belong to the Shiah sect.

The agricultural classes and the village menials are almost entirely Muhammadan, the Hindus and Sikhs belonging almost wholly to the mercantile classes, who, however, own much land.

Hindus.

The Hindus of the district, who are for the most part Aroras, and are commonly known as Kirars (a term which now, it seems, carries contempt, but not in this district), without regard to caste, worship the Krishna incarnation, or the river, or both, and their legends point to a revival of Hinduism having taken place in these parts between three and four hundred years ago by spiritual guides named Shamji and Lalji being sent from Bindraban to bring back the Hindus who had begun to err and to worship at Muhammadan shrines. In *Sambat* 1600 came Shamji from Bindraban. His *guru* gave him two idols and said: "The Hindus of the western country of the Sindh are ignorant of their religion. They have no *guru* to guide them between good and bad. Go to the west and teach the Hindus the ceremonies of their religion; make them your disciples (*sevak*). Your words will have speedy effect. Remain not in the pursuit of worldly affairs." When Shamji reached the Sindh, he made two and a half disciples, *viz.*, two Khatris and half a Chandia Biloch! He established a *mandar* at Dera Ghazi Khan, and there are now *mandars* of Shamji at Dera Ismail Khan, Kot Sultan, Kot Adu and Multan. Lalji was a worshipper of Krishna, who sent him on an errand similar to Shamji's. He first declined to go. Krishna gave him an idol of himself and told him to start for the Indus, and that Lalji would know it was following by the tinkle of the *jhanjars* on the idol's feet. When Lalji reached the country west of Dera Ghazi Khan, he stopped and looked round. The idol said: "You have stopped; I am going no further." Lalji stopped and built a *mandar* to Krishna by the name of Sri Gopinathji, which exists to this day. Other Lalji shrines are at Dera Ismail Khan called Sri Nagarji, and at Bahawalpur called Sri Girdharji.

Sanwal Shahis.

Another large body of sectaries are the Sanwal Shahis. In *Sambat* 1545 Guru Nanak took a journey into the Sindh country and found the Aroras ignorant of religion and without a *guru*. He appointed a *guru* to teach them. Sanwal Shah was the name of Nanak's servant, and the *gurus* that followed were called Nanak Shahi. The *gurus* of the Sanwal Shah sect are called Sanwal Shah Potras.

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River Worshippers.

The last sect of Aroras are the worshippers of the river under the name of Jindpir. The Thakkar Aroras are the *gurus* of the river worshippers. This worship is most prevalent in the Alipur Tahsil. On Sundays the river worshippers go to a neighbouring canal or river to worship. They make a raft of reeds, place on it a *chiragh* made of flour, which they light and allow to float away. It is a remarkable thing that the spiritual guides of these four sects have quite forced the Brahmins into the shade. In influence, wealth and intelligence, the Shamji Dasi Gosains, the Lalji Gosains, the Sanwal Shah Potras and the Thakkars are far superior to the local Brahmins, and receive much more respect.

Arya Samaj.

A new sect of Hinduism, called the Arya Samaj, has been established lately, and has drawn a number of followers, in towns particularly, out of the educated classes. The sect is unitarian, and denounces all other sects of Hinduism and all the other religions. It is making headway in the district.

Muhammadans.

The Jats, Biloches, Sayyids, Pathans and the miscellaneous tribes profess to be Sunni Muhammadans. There are a few Shiahs, remnants of the time when the Kalhoras ruled in Dera Ghazi Khan and Mankera. The Sayyids and Pathans are the strictest Muhammadans. Every person, however, has a *pir*. Each person secures the intercession of his *pir* by an annual offering called *buhal*, which the *pir* goes round and collects himself, or sends his deputies for. Besides this annual fee, the *pirs* sell charms and amulets to obtain every object, and to avert every calamity, that can be imagined. Pilgrimages to the shrines of saints are very common, and are made both as a religious duty and an amusement. *Pirs* and pilgrimages are the extravagances which are impoverishing the zamindars in this poor district. Questions relating to marriage and divorce are governed absolutely by Muhammadan law, but in matters of succession to property the *Shara* has not influenced the custom of inheritance based upon agnatic relationship. The validity of the marriage of a woman to an agnate has, however, resulted in removing the disability of a married daughter to inherit in preference to distant agnates male.

Shrines.

The shrines of the district are very numerous, and the more important are frequented by pilgrims from Dera Ghazi Khan, Multan and Bahawalpur. It will be sufficient to give an account of four of the most famous, and merely to name the others.

Karor Lal Isan.

At Karor is the shrine of Lal Isan. It is said that Sultan Hassan came here from Arabia and converted the people to Islam—a *karor* of people being converted—and settled at Karor 14 generations before Lal Isan; hence the name "Kot Karor." Five generations later the saint

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Bahawal Haq was born at Karor and went to Multan. Lal Isan was born at Multan in the same family and came to Karor and there recited the *surat muzammil* a *karor* of times; at that time the Indus had drowned out half Karor, which used to extend below the old bank; the river then retreated six miles. He died at the beginning of the year 1,000 Hijri. The shrine was built shortly afterwards by his descendants. His descendants are still in Multan, Haidarabad (Deccan), Dera Ismail Khan and Mianwali and at Karor itself. Mr. Thorburn, Deputy Commissioner, in 1882 took considerable interest in the shrine, and, at his suggestion, a committee of four persons, descendants of Lal Isan, kept accounts, etc., but this seems to have been dropped now. Ghulam Sarwar Shah and Jaman Shah are the present important members.

A fair takes place on 14th *Bhadon* and lasts about ten days and some 50,000 people attend from all parts. It is a great place of pilgrimage. Descendants and disciples are buried in the courtyard, which contains the tomb of Ismail Khan, who founded Dera Ismail Khan. People from all round bring dead here, and the surrounding cemetery is immense. Lal Isan's descendants are in four branches, and four lights are kept burning day and night in the shrine. When any descendant is about to die, his lamp burns without oil, and at his death goes out. Miracles in the form of sick persons recovering are reported to be common, and *jinns* (devils) are cast out by Bhopas! The District Board and Municipal Committee of Karor combine in making the fair a success, and games and sports, etc., are held. The shrine is referred to at the end of chapter I-B.

Daira Din Panah.

Zealous devotee.

دوی-اولیا

In the town of the same name is the shrine of Din Panah. He was a Bukhari Sayyid who settled here more than three hundred years ago. He took up his abode in the house of Mussammat Suhagin, the wife of Akku, a Jat of the Makwal tribe. Mai Suhagin is said to have been a very ardent votary of the *Kaba*, and wanted a living relic, *lal* (son). Din Panah (a sage) went to *Kaba*, and was handed over to her; and she was told that he would come to her when she got home. So it was; Din Panah is said to have come to Mai Suhagin as a baby crawling about on the bank of the Indus. With her husband's permission, she began to suckle him and brought him up. When he grew up, he gave away all Mussammat Suhagin's property in charity; and, when the time of her daughter Mussammat Rabi's marriage came, there was nothing left to give so Din Panah offered himself by way of dowry. Mussammat Rabi was married to a resident of Sanghar, where Din Panah went with her and lived the rest of his days. He is said to have been poisoned and died in A.H. 1012 on the west bank of the Indus, where he was buried. The date of his death is taken from the

epitaph *Khur-ba-Niqab amadah* by Abjad calculation. The Makwals of the east bank tried to steal his coffin, but were prevented. A feud broke out between the Makwals on each bank of the Indus. At last Din Panah revealed himself in a dream to the brothers of Akku, and told them to make a coffin for the east bank of the Indus, and that his corpse would be found in its also, as well as on the west bank. Since then, there has been a shrine on each bank of the Indus. The tomb at Daira Din Panah is a fine, domed building covered with blue and white tiles. Through the influence of Pandit Hari Kishan Kaul, Deputy Commissioner, a great deal was done in the matter of cleaning, plastering and beautifying the inside. The Makwals descended from Mai Suhagin are still keepers of the shrine, and are called Khadims. The head of the family is commonly called Makhdum, instead of Khadim. The present head of the family is Khan Bahadur Makhdum Ghulam Qasim, some time a member of the District Board and a Provincial Darbari, and does a great deal of public good by charity, etc.

The offerings made are large, being estimated at Rs. 8,000 a year. About Rs. 2,000 a year are also collected by the Makhdum in visits to the *murids* (disciples). He also owns 50 or 60 wells. At all times the tomb is a place of pilgrimage for Hindus and Muhammadans, and is a favourite shrine at which to cut off the *jhand*, or first hair, that grows on a child's head. No particular fairs are held, but during the months of *Har* and *Bhadra* people come to the shrine in large numbers from different parts of the district and from Bhakkar, Dera Ismail Khan, Jhang and Montgomery. The number of pilgrims is not so large in the other months. Women come to the shrine to have *jinns* (evil spirits) cast out.

Daira Din Panah forms a refuge for an objectionable set of beggars. Any rascal who is discontented at home, or prefers begging to work, wraps a brown *pagri* round his head, and, calling himself *Shah da fakir*, considers himself entitled, under the authority of a traditional saying of Din Panah, to beg within 12 *koses* of Daira Din Panah. He requires no permission from the keeper of the shrine, but makes raids on the neighbourhood on his own account. Some of the fakirs get a thread from the shrine as a token of authority. These *Shah da fakirs* travel about with bullocks and donkeys on which they load what they can get. They are disliked by the people, and have become a nuisance.

Din Panah built the tomb of Mai Suhagin during her lifetime. It stands near a customs house, now the district board rest-house. Mai Suhagin's husband, Akku, began to distrust Din Panah when he squandered all his money. Din Panah is then said to have shown him a miracle. He

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took up a corner of the carpet and showed Akku two streams—one of gold and another of silver—flowing, and asked him to take as much as he wanted. This restored Akku's faith. Akbar is said to have come during Din Panah's time as a sanyasi, and desired to become a *murid* by offering a lock of his hair. Din Panah, however, refused to admit him to his discipleship. There is a huge bowl called *kishta* lying in the shrine which a camel called Melu used to carry about his neck in Din Panah's time and collect grain in it, going about from house to house. He thus supplied the kitchen with the grain requisite for keeping up the *langar*. The bowl, which can take 8 maunds of grain, is now used as a measure by those who offer to fill it in the event of the fulfilment of their desires. The camel was buried 1½ miles from the shrine in the village of Tibba, and his tomb still exists there. The shrine was built by one Mian Haran, a *jatt* (camel-driver), who is said to have got as much money out of his camel saddle (*palan*) every evening as he wanted. A peculiar state of affairs is said to exist in the family of the heads of the institution. From 13 generations each line has had two brothers. The elder brother has no sons, the younger has two. One of the boys becomes Makhdum. There are always two daughters in the family. They are not married outside the family. If it is possible to marry them to the sons of the other brother, well and good; otherwise they remain spinsters. The elder sister always dies after she comes of age, and the younger is entrusted with the charge of the *langar*. The present Makhdum, however, appears to be an exception as he has got three sons, and his younger brother, who is dead, has left a daughter. She has married the eldest son. The second has married into the family of M. Fatteh Muhammad Khar, and the third son is unmarried and a minor.

Daud Jahaniah.

Three miles south of Muzaffargarh in the village of Rampur is the shrine of Daud Jahaniah, called by the vulgar Dhudhu Jahaniah, or simply Dhudhu. It was founded by Sheikh Allahabad Koreshi, who came from Arabia, and, having acquired sanctity in the service of Makhdum Jahaniah Jahan Gasht, settled at Rampur. His descendants are Makhdums of the shrine. They are now Metla Jats. They say they became Metlas from Koreshis because so many Metlas live in the neighbourhood. Additions were made to the tomb by Nawab Muzaffar Khan, and it was repaired by Diwan Sawan Mal. The shrine is largely frequented by Hindus and Muhammadans. A metalled road has been built connecting the shrine with the Muzaffargarh-Alipur road. A fair is held there every Thursday, and in *Chetr* and *Sawan* the assemblies are very large. A common vow at this shrine is called *atta ghatta*, literally "flour and

sheep." When the object of the vow has been obtained, the devotee and his family repair to the shrine, taking a sheep and a maund, or 20 seers, of flour; the head, skin and shoulders of the sheep they give to the Makhdum with 5 pice ($1\frac{1}{4}$ annas); the rest is cooked, and the flour is made into bread and distributed to the poor. The offerings at this shrine were for a considerable time farmed to a Hindu. Baths of hot and cold sand are prepared for lepers by the attendants of the shrine. Such baths are called *rangin*, the literal meaning of which is, the vessel in which dyers dye cloth. Makhdum Ghulam Mustafa is the present Makhdum of Daud Jahaniah.

Alam Pir.

At the town of Shahr Sultan is the shrine of Alam Pir. It was founded by Sheikh Alam-ud-Din, *alias* Alam Pir, a Bukhari Sayyid descended from the Makhdums of Uch in Bahawalpur. In A.H. 1167 Shahr Sultan was carried away by the river. The shrine and the town were rebuilt at a distance of two miles from the old site, and remain to this day. This shrine is remarkable for the frenzy which attacks persons, especially women, who resort to it. In the month of *Chetr* a fair is held here on Thursdays and Fridays to which about 5,000 persons come from Dera Ghazi Khan, Bahawalpur, Multan and this district. As the women, most of whom are in *kachawas* on camels, or riding on horses and bullocks, get near Shahr Sultan, they seem to take leave of their senses, and begin to sway the body violently from the waist upwards. Their hair gets loose. They screech, and look like so many bacchanals. In their excitement many fall off their camels. The soil of Shahr Sultan is sandy, and they come to no harm. Mr. O'Brien wrote as follows: "I saw a man, his wife and "baby come within sight of Shahr Sultan at fair-time. The "woman and baby were riding on a bullock which the "husband was leading. The woman suddenly slipped off the "bullock, put the baby into her husband's arms and started "screaming at the top of her voice across the plain that "lay between them and Shahr Sultan, leaving the poor man "standing on the road with the baby and bullock. This "frenzy, which even attacks women at home as fair-time "draws near, is believed to be caused by the woman being "possessed by a *jinn*, and the term used for a woman so "possessed is *jinn khedan*, to play *jinn*. After having seen "the performance, one may be pardoned for translating *jinn* "*khedan*, playing the devil." Within the fair "playing the devil" and casting him out goes on in a regulated manner. In the house of the Makhdum of the shrine and in the house of the other Sayyids of the Makhdum's family women of the upper class have their attacks of *jinn*, and have them cast out to the accompaniment of a *mirasi* woman, playing on a drum and singing. For ordinary people four sites are chosen over

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each of which a *khalifa*, or deputy of the Makhdum, presides. The possessed women pay him a pice or a fowl, take their seats and begin to sway their bodies backwards and forwards, gradually increasing in violence. The excitement is kept up by a drum being played. The *khalifa* goes round, lashes the women with a whip and pours scented oil on them. As each woman gets weary, the *khalifa* pronounces some words, sprinkles a little water over her and gives her a drink. The *jinn* is cast out. The woman becomes quiet, and is dragged away in an exhausted state by her friends. It is hard to imagine a more thoroughly repulsive exhibition. It is difficult to say how much of these attacks is assumed, and how much involuntary. The assaults of *jinns* at home may certainly be set down as affected, the object being to make the husband take the wife to the fair. The frenzy on coming near the shrine seems involuntary. The paying of the *khalifa's* fee is as deliberate an act as taking a railway ticket, but, when a woman takes her seat with the swaying crowd, she certainly loses all control over herself.

Other Shrines.

The other shrines of note are Bagga Sher, literally "white tiger," in the village of Khanpur, six miles north of Muzaffargarh; it is so named because a white tiger defended the saint's cows from thieves. The shrine of Miran Hayat is in the village of Panj Girain, seven miles south of Muzaffargarh; there is a stone figure of a camel on which the saint used to ride, and there is a forest of date trees near the shrine the branches of which are said to be like cobras; a branch kept in a house will drive away cobras. He was a nephew of the celebrated Ghaus-ul-Azam. His fair is held in *Ramzan*. The shrine of Dedha Lal in the village of Harpallo is a fine, domed building which it was at one time intended to protect; this shrine, Bagga Sher and Sheikh Laddhu are efficacious for cattle to visit during an epidemic. The shrine of Musan Shah in Jalwala Pir Amir has no remarkable buildings. In the Kot Adu Tahsil are the shrines of Nur Shah in the village of Talai Nur Shah, of Sheikh Pallia and Haji Ishak, which have a certain local reputation. In Alipur there are no shrines worth mention, except Alam Pir, which has been already described. The favourite time for pilgrimages in *Chetr*, *i.e.*, from the middle of March to the middle of April, and *Sawan*, *i.e.*, from the middle of July to the middle of August. *Sawan* is chosen because it is the date-picking month. Along every road dates are being gathered, dried and taken away for sale. The pickers are allowed to give a handful to each passer-by. Thus pilgrims in *Sawan* are almost freed from the necessity of taking provisions with them. *Chetr*, the month before the harvest, appears to have been chosen for pilgrimages as a sort of holiday preparatory to the hard work of the season.

Lingri Pir, the Rag Saint.

In the Thal, far from any shrine, and on the roads leading to the noted shrines, may be seen occasional thorn trees covered with rags, similar to those near holy wells in Ireland. These are called the lingri *pirs*, or rag saints. "To account for their existence far from any shrine, it is said that they satisfied the want of women for a place of pilgrimage, and on the roads leading to shrines the rags are said to be placed as evidence that the vow has been performed. Pilgrims also tie knots in the grass of the roadside leading to a shrine, and a common form of making a vow is "If you grant me my desire (*tedi gandh badhesan*), I will tie a knot to you," that is, "I will visit your shrine."

Superstitions.

It would be difficult to find a more superstitious people in the world than the illiterate residents of this district. They are firm believers in *jinns* and the evil eye—

Sap da khada bachdae,

Nazar da khada nahin bachdae.

The snake bitten escapes,

He that is affected by the evil eye escapes not.

The *jinns* appear to be a simple lot, and are easily outwitted or diverted. A ring drawn in the dust, round a heap of corn or a person, will keep them away. The knives which brides and bridegrooms wear are intended to keep *jinns* off. In consequence of this credulousness, Sayyids, Koreshis, the keepers of shrines and any impostors who can inspire confidence derive a great trade in selling amulets (*rakhri, chapri* and *phull*). Among other amulets may be mentioned *mandhani da phull*, the charm of the churn-dasher. This has the effect of attracting all the butter in the churns of the neighbours into that of the possessor of the charm. *Bilani da phull* is a charm to win the heart of a woman, and so on. The price paid for an amulet is called *mokh*. It would be hopeless to attempt to note all the superstitions, but one may be mentioned. If an enemy gets any of the *chikun*, which is rubbed on brides to increase their beauty, and burns it, he will cause disunion between the newly-married pair. The people, Hindus and Muhammadans, are thorough fatalists. They never personally commit thefts or murders, or bring suits without foundation, but say it is that unpleasant power, their *nasib*, which caused all the trouble! They are firm believers in omens. The distinction between good and bad omens under different circumstances is bewildering. One omen is under all circumstances good, that is, to put up a blue jay; and, strange to say, to meet a mullah, a Brahmin, a fakir or a beggar is always a bad omen.

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Ecclesiastical Administration.

There is an Anglican church (St. Mary's) at Muzaffargarh. The Chaplain of Multan pays a visit to the place occasionally. The Church Missionary Society's Chaplain at Multan also visits. The church is also used by the Indian Christians who belong to that mission. The church and cemetery are in the care of the Deputy Commissioner. There are few Indian Christians in the district.

General Character of People.

The character of the people was very appropriately described by the late Mr. O'Brien as follows:—

"The account given of their superstitions will not have "given a very high opinion of the character of the people, "but they have many good points. They are very hospitable. "'Not even an enemy should go away when the baking-"plate is put on the fire,' says a proverb. They are ready "to render help to one another. If a man's house is swept "away by a flood, the whole village will help him to save "his property. If his cattle are stolen, he has no difficulty "in getting several parties of men to follow the thieves. At "ploughing- and sowing-time they are ready in bringing "their bullocks and ploughs to help. They are very docile, "and only require kindness and firmness to be easily managed. "At the same time, when an order is distasteful, though it "meets no open opposition, but often ready assent, yet it is "liable to be frustrated by stolid, indirect resistance. There "never was a people that better understood the 'I go, sir, "and went not' kind of disobedience. Morality is very low. "The common people will steal anything they can. They "are so mendacious that the pleasure of associating with "them is spoilt by the ever-present knowledge that you may "be taken in. Sexual immorality is universal. They are "not a cheerful people. In conversation they seem to "remember nothing but droughts, failures of canals, blights, "deaths of cattle and every possible misfortune that can "befall a farmer. They are absolutely wanting in any public "spirit. I have heard a tahsildar, as the worst punishment "he could inflict on a recalcitrant zamindar, threaten to get "him appointed on the district committee."

The hospitality, docility, low morals and mendacity are the important characteristics, and cattle-lifting is practised as a sporting and adventurous pursuit. As regards the disregard for truth, a zaildar, well known for his general truthfulness, said that in one way it was correct to call the people liars, and in another way it was not. He said that, in all important matters where it was necessary to make a statement to officials, a council was always held at home, and the line of action decided upon. Each of those present decided what he would say, and all said *dua kher* (invoked blessings), or swore on the Kuran to be faithful to the undertaking.

When therefore a man went to an officer and told him a barefaced lie even on oath, and he owned that he was not an exception, he was only discharging a self-imposed obligation, and the people considered him a truthful man; while, on the other hand, if he told the truth, he would be breaking the oath taken at home, and be adjudged a false man. But this is not peculiar to the people of the district. Successive floods, droughts, failure of crops and, more than anything, debt, all resulting in poverty, is responsible for what might be described as the demoralization of the people. This is referred to again at the end of chapter II-A. The people are generally very dirty, and bathe infrequently. They are sober.

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Conditions of Life in the Thal.

Mr. (now Sir Malcolm) Hailey's excellent description of life in the Thal is worth quoting in full—

" Less strictly pastoral than the inhabitants of the " Mianwali Thal to the north, the well-owners of the Leiah " Thal Kalan are only half-agricultural for they keep large " numbers of stock not only to provide the all-necessary " manure, but as a means of subsistence.

" The inhabitants of the Jandi Thal are for the most " part agricultural, but the necessity for obtaining manure " obliges them also to maintain a number of stock.

Prevailing Note is Poverty.

" The prevailing note among the Thal people is their " poverty—a poverty not only of resources, but also of " enterprise and intelligence. A continual struggle with " Nature in her most niggard and capricious mood leaves " them too exhausted for any other effort. They will not " enlist nor take any kind of service, and admit their lack " of enterprise with the excuse that they are 'camel-hearted.' " There is indeed much truth in the comparison for they " have to undertake an immense amount of the dullest kind " of labour on the poorest of diets and for the meanest of " rewards. The Thal well-owner displays an industry far " greater than his neighbour in the *Kachhi*, but the cost of " his oxen, the scantiness of the rainfall and the severity of " the climate ensure him far poorer results.

Food.

" He eats but little wheat or barley; for part of the year " he and his family live on turnips and melons, and for " the rest the supply of grain is eked out by the wild fruits " of the *jal*, the *jand* and the *ber*.

" The shepherd and the camel-grazier ask and enjoy " still less; they live almost entirely on the milk of their " sheep, goats and camels, aided by such grain as they can " earn by work at harvest-time in the *Kachhi*.

" They eat a good deal of meat, however, for, besides " the food afforded by an institution resembling a mutton

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Good Health.

" club, they never hesitate to use the knife on an animal " dying of disease, be it bullock, goat or even—*horresco* " *referens*—camel.

" Arduous as the lives of these people must be, the " poverty of the Thal carries some compensation in the " health enjoyed by its inhabitants, and the age of their " men and the strength of their women are a byword in " the district. Indeed it is the poverty of poor living only " for there is never any actual famine, and in the worst of " times temporary migration is no real hardship to a half- " nomadic people. But they always hark back to the Thal " for their primitive instincts are not yet trained to a " civilization which is embellished by the tahsil chaprasi " and the munsiff's court.

Morality.

" As for morality, they have a reputation above that of " their neighbours, and the Thal is distinguished above the " other Bars by the Punjabi proverb, *Sindh sadikan da,* " *Chenab choran da, Ravi markiton da.* Perhaps their " abstinence from theft is due to accident rather than choice " for the sandy soil of the Thal points the tracks of the " larger animals with a definiteness that makes theft un- " profitable. It is certain, however, that their moral sense " stops short at sheep and goats, which they look on in " much the same light as the English farmer would regard " his neighbour's partridges—fair game if they come his " way!"

Appearance and Physique.

The people of the district are generally of middling height, about 5 feet 6 inches (there are very few men over 6 feet high), and are characterized by a dark-brown complexion, blackish-brown eyes, a thick and flat nose and coarse features. The body is generally well built, the chest and arms are proportionately well developed, but the calf muscles are not.

The inhabitants of the Thal have a better physique than people living in canal-irrigated tracts, and are supposed to live longer. This is evidently due to the drier and healthier atmosphere they live in. The inhabitants of the Rangpur Sub-Tahsil adjoining the Jhang District have just as good, if not a better, physique than the Thal, and are better looking, being taller and having somewhat sharp features, with an eagle nose.

Tattooing.

Tattooing is done by some Hindu women of the district. Men do not go in for it, nor do the Muhammadans like it. Tattooing is done merely for the sake of beauty. The marks are found on the forehead, cheeks, lips, shoulders, arms, wrists and back of hands and feet. They are circular, and irregularly made. Generally, one sees a number of dots in a line or in a cluster. The operation is made when the girl is between

7 and 10. Some other girl performs the operation with a common needle, picking holes so as to make the desired figure. Antimony and butter are then mixed up, and the parts operated upon are anointed with the mixture. The skin heals up in about a week, and there are no evil results.

Occupations.

Table 17 in volume B gives details of occupations registered at the last census. The more important figures are noted below:—

No. in Census Report.	Occupation.	ACTUAL WORKERS.		DEPENDANTS.
		Males.	Females.	Both Sexes.
1	Pasture and agriculture ..	114,797	2,620	244,720
2	Fishing and hunting ..	550	8	675
6	Textiles	5,073	2,174	9,382
8	Wood	4,123	129	8,544
10	Ceramics	3,038	41	6,237
13	Industries of dress and the toilet.	8,458	198	17,848
21	Transport by road ..	4,757	10	9,099
26	Trade in piece goods, etc.	3,192	465	7,644
40	Trade of other sorts ..	9,291	98	20,455
46	Religion	1,339	68	3,283
52	Domestic service ..	2,101	86	3,092
53	General terms which do not indicate a definite occupation.	9,442	1,142	18,522
54	Beggars, etc.	6,185	1,098	9,525

This is an entirely agricultural district. The proportion of landowning and cultivating classes is very large. Next in importance come agricultural, general and domestic labourers, graziers and artisans connected with agriculture. Weaving and other pursuits relating to the manufacture of cotton goods constitute the most important industry in the district. The large number of persons depending on religion, *viz.*, pirs, mullans, Brahmins, and the still larger proportion of beggars, is a noticeable feature, and are responsible for much of the poverty of the ignorant people, who are superstitious, etc., and have to meet their demands to escape the consequences threatened.

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Daily Life.

The larger zamindars, with a few exceptions, lead a more or less lazy life, much of which is spent lying down and being massaged by servants, etc. An occasional visit to the fields or wells in the morning finishes the arduous part of their duty. The time between breakfast and dinner is usually spent in chatting (mostly with menial servants), lying down or playing some indoor game like chess. The ordinary zamindar has his day very full. Where he has a well, he has to keep up during part of the night if his turn of irrigation comes by night. Otherwise he gets up early in the morning about 4 o'clock in the summer and 5 or 6 in the winter, and begins to plough his fields or attend to the agricultural work of the season. The breakfast is taken out to the fields by the wife about 9 or 10 o'clock; and, when he has done some work after breakfast, he lets his bullocks loose or ties them up, as may be necessary, and takes a little rest at midday, usually having a siesta under the shade of the nearest tree. As soon in the afternoon as it is cool enough to start work, he is up and doing again. He returns home in the evening, generally with a bundle of grass for the cattle, has his evening meal and goes to sleep. During harvest-time the peasant has a very busy time of it. Harvesting operations start early in the morning, and all available hands in the house go out to assist the cultivator. With the exception of a short rest at midday, work goes on from morning till evening. The ordinary zamindar has no chess or other indoor game Spare time is spent in chatting and smoking.

The peasant women have an equally, if not a more, laborious routine to attend to. They get up long before sunrise, grind corn for the day's use and churn milk before sunrise. The cow has then to be milked, water has to be brought from the well, canal or creek and then the breakfast has to be cooked. The wife then takes the food out to her husband in the fields. On her return, she attends to miscellaneous household duties, such as spinning cotton thread, ginning cotton, sewing, mending clothes and looking after the children. In the afternoon she again grinds corn for the evening unless there is enough flour left out of the morning's supply, fetches more water and cooks the evening meal. At harvest-time the peasant women also go out to the fields and help in sickling the crops. The ordinary **Arora** opens his shop in the morning after a wash, and sits there the whole day long or till after sunset, having his breakgast brought there, or going home for breakfast for a short while.

Divisions of Time.

The day and night are divided into eight *pahars* of three hours each, but there are no means for the exact indication of the commencement and termination of each *pahar*. The Persian-wheels on wells are worked by *pahars*, each cosharer having the exclusive use of the well for so many *pahars* every

day. The zamindars go by the sun during the day, and by the moon or stars during the night. The division is good enough for all practical purposes, but cannot of course be exact. The names for the different times of the day are—

Sarghivela ..	.. Early morning—about 3 or 4 A.M. when the early meal is taken during the fasts in Ramzan.
Dhammivela-Namazvela	.. Dawn—time of morning prayer just before sunrise.
Fazir ..	.. Morning—after sunrise.
Rotivela ..	.. About 10 A.M.—breakfast-time.
Dupahar ..	.. Midday.
Peshi ..	.. Early afternoon—2 to 3 P.M.
Digar ..	.. Late afternoon—an hour or so before sunset.
Dinh Lattha ..	.. Sunset.
Nimashan ..	.. Just after sunset—twilight.
Khaopio ..	.. Dinner-time—about 8 P.M.
Kuftan ..	.. Time to go to bed—about 10 P.M.
Addhi rat ..	.. Midnight.

Nikki Peshi and *Dhalli Peshi* and *Nikki Digar* and *Dhalli Digar* are terms used to signify further sub-divisions of the afternoon.

Food.

The people usually eat two meals a day: one before noon, generally at about 10 o'clock (called *rotivela*), and the other directly after sunset. An early meal is also sometimes taken soon after sunrise, and called *niran* (meaning taken on an empty stomach); or *hanjhal* (the heart sustainer); and another light meal in the afternoon (called *pichhain*). The staple food-grain is *jowar* or *bajra* in the winter, and wheat in the summer. Rice is grown largely, but is not favoured as a sustaining food, and is generally exported. It is eaten only when the peasant has rice in hand and cannot afford to purchase more expensive food-grains. In that case unhusked rice is ground into flour and made into cakes. In the summer the poorer people content themselves with barley, instead of wheat, and those who cannot even afford barley will eat gram or peas or other cheap grain, and sometimes in years of scarcity men in the Thal eat the *Bhukal* seed (*Asphodelus tishilosus*). In every case the food-grain is ground into flour, and *rotis* (cakes) are made thereof and eaten with *dal* (pulses). vegetables (if procurable), sugar, salt or *lassi* (whey). Poor

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people often eat *roti* without any accompaniment. Meat is rarely eaten, except on festivals, or when an animal is killed to save it from dying a natural death, or of disease. Fish and game are largely eaten. Dates form the staple food of the poor for months, and are much eaten by others during the season with or without *roti*. *Ber* (fruit of *Zizyphus jujuba*) is a favourite additional food, and lily stems (*bhe* or *pabban*) are largely eaten in the central tracts of Muzaffargarh and Alipur. *Lassi* (whey) is a favourite drink of the agriculturist at the day meal, and milk is taken at night if it can be spared, but it is generally required for making whey in the morning. Butter is eaten with the *roti* as a luxury, or is put into *dal* or vegetables during the cooking. As a rule, the women cook the food and the whole family messes together. In well-to-do families where *purdah* is observed the men usually mess separately from the women.

Dress.

The ordinary clothing of an agriculturist consists of a plain turban, a scarf *chaddar* of cotton cloth worn on the upper part of his body and a loin-cloth which is fastened round the waist the folds of which hang down like a petticoat. When active exertion is required, the folds are collected, passed between the legs and tucked into the waist at the back. This is called *manjhla, tahmat* or *dedha*. A pair of shoes completes the working-day dress of the Jat. Shoes are described as *ghetlidar* if the upper leather be in one piece, or *kannedar* if it be in two pieces. The richer classes and the ordinary peasant on state occasions, instead of the working dress above described, wear a peaked cap (*topi*), with a coloured turban wound over it. A *dupatta* of English cloth takes the place of the common *chaddar*, and a silk *lungi* or *khes* is added either as a scarf or wrapped round the waist; a *chola*, which is like a waistcoat with sleeves and skirts, is worn, and, in the place of the *manjhla*, drawers made very full and baggy are worn; these are called *shalwar*, or, if cut straight to the leg and tight, *suthan*. On the banks of the Indus and in the south of the district the long smock peculiar to the Biloch is often seen on both men and women. Peasant women wear a scarf called *bhochan;* it is called by different names according to its colours; a bodice called *choli*, that looks as if it were made of patch-work; it is, however, a work of art, and each piece has its well-known name; a petticoat or drawers are also worn —sometimes both are worn at the same time. In parts, especially in the north-east of the district near Rangpur, instead of a petticoat or drawers, the women wear a *manjhla* like the men. A pair of heelless shoes completes a Jatni's dress. Ornaments worn differ according to the wealth of the wearer. The following are always worn, except by the very poorest women:—

Kangan, or bracelet; *valian*, or earrings; and *chura*, or bracelet.

To be said to have the "ears of a cat," *i.e.*, without earrings, is a reproach hard to be borne by the ladies of the district. Women wear their hair in three ways, according to their time of life. While they are small girls, the front hair is cut straight across the forehead, and the back hair is allowed to hang loose; the hair in this stage is called *chhatte*. As a girl grows up, her hair is plaited on each side of the forehead; these plaits are called *mendhian;* and the unplaiting of them is a solemn ceremony which takes place at marriage. After marriage the front hair hangs loose, and the back hair is plaited into a tail; the front hair is called *dhari*, and the plait *gut*.

The ordinary dress of the Aroras is a *topi* (cap) on the head, a *chola* (sleeved jacket) and a *dhoti* (cloth, usually homespun, tied round the waist and hanging down to the knees, with the ends passed between the legs and fastened at the back). The Hindu women wear a *bhochan*, *choli* or *kurta* (jacket), and a *manjhla* or a *ghaghra* (petticoat). Foreign cloth is in common use, and coats are also worn.

Dwellings and Furniture.

The rural population is lodged in houses of three kinds.* Each has its peculiar name. *Kotha*, a house with mud or brick walls and a flat roof; *sahl*, a house with mud or grass walls and a thatched roof; *gharira*, an arched hut of grass. *Ghariras* are most used in the inundated parts of the district. The wealthier agriculturists own a *mari*, *i.e.*, masonry house of one or two storeys, and some have in the neighbourhood of their dwelling-house a courtyard with sheds, which answers the purpose of a guest-house and a place for meeting to transact business. Such a courtyard is called a *visakh*. The following description applies to rustic homesteads. The dwelling-house is a *sahl*. In front of it is a small courtyard partly or entirely enclosed with a mud wall or a fence. Within this, from a tree or from posts, hangs the baby's cradle (*pinghura*) made of wood, reeds or a blanket slung hammockwise, and in the corner stands a branch of a tree the thick end of which is fixed in the ground and the smaller branches of which are cut down to stumps. The thick part is used to tie the churning apparatus when churning is going on, and the milk vessels, after being cleaned, are hung on the stumps of the branches to dry and air. This is called a *nahila*. Outside the courtyard is a larger enclosure in which cattle are tied, and a few stacks of fodder stand. Attached to the house, or at a little distance from it, is a cattle-shed called *bhana* or *dhuinh*, where the cattle are housed during the winter. Inside the dwelling-house, which consists of a single room, is a large wooden platform, *manhin*, on which a mat of reeds is spread. On one corner of the *manhin* are various baskets holding cotton in various stages of prepar-

* See chapter II-C also.

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ation for spinning. In a trunk or basket are the best clothes of the family. There are also two trays called *patrota*, one of which contains the small articles for women's use: looking-glass, tooth-stick, comb, needles and thread which a bride receives from her mother, and which are called *sanjha;* the other contains the ornaments in daily use. At the other end of the *manhin* are the family bed-clothes, and there the father, mother and children sleep at night. Grown-up sons and daughters are accommodated on *charpais*. Under the *manhin* are kept the store of new earthenware vessels belonging to the house, the *ghurat*, or hand-mill, and the mortar for husking called *chattu* and pestle *mohla*. At the other end of the room is the fireplace at which meals are cooked, and near it two baskets, the larger of which contains the cooking vessels and dishes in daily use, and the smaller the family store of spices. Near the walls are two or three earthen cylinders for holding grain, clothes and odds and ends. The spinning-wheel, spindle (*ura*), winnowing-basket, sieve, the iron stand for pots when cooking and the cotton gin are hung on pegs driven into the walls. From the roof hang one or two strings of cord for keeping *ghi* or cold food safe from ants and cats. A net of large meshes, called a *trangar*, is also hung from the roof, which holds clothes and blankets, and, if the family owns a Kuran, it is kept in the *tranger*. A spare *charpai* or two completes the funiture. Outside the house are one or more high platforms called *manhan* (Hindustani *machan*). On these the family sleeps in the hot weather to be out of the way of mosquitoes. In the flooded parts of the district the *manhans* are from 10 to 12 feet high, and in heavy floods the people are compelled to spend day and night on the top for weeks together.

Death Ceremonies.

At the moment of death among the Muhammadans alms are given to the poor. The corpse is washed by the mullan if the deceased was a man, and by the mullan's wife or by female relations if the deceased was a woman. The corpse is dressed in grave-clothes called *kafan*, is placed upon a *charpai*, and over it is spread a rich cloth called *uchhar*. The corpse is carried to the graveyard by friends and relations. The *uchhar* is the perquisite of the grave-digger. The corpse is placed in a shelf (*sami* or *asami*) at the side of the bottom of the grave. Its head is towards the north, and its face to the west. Near the mouth is placed a brick, with the *kalima* written on it. No food is cooked that day in the deceased's house, but friends send food for the family and for visitors who come to offer their condolence. Such food is called *kaura vatta*, and visits of condolence *mukan* or *parchawan*. At every stage of the proceedings presents are given to the mullan, and for forty days after the death food is daily given to him.

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Two useful words to remember in all domestic ceremonies are *kandha*, an invitation, and *vel*, a present to the attendants, midwives, barbers, mirasis, mullans and Brahmins. One would like to be able to trace a connection with the old English word *vel*, meaning present to servants.

Among the Hindus the funeral ceremonies are the same in the main here as elsewhere. But the breaking of an earthen pitcher over an iron instrument, on the way to the burning-place, and the formal permission asked by the *bhat*, on the fourth, tenth and thirteenth day after the cremation, from the assembled relatives for the son of the deceased to be allowed to bathe, shave and change his dress is peculiar to this locality. The supposed funeral uncleanness lasts for thirteen days. When an old man dies leaving a large family of sons, during the advance of the body to the burning-place all the follies of the *Holi* festival are practised. One son will be thrown down, another will have three or four shoes tied round his neck, while a party of three in the rear amuses itself by striking with shoes one of the grandsons. In short, buffoonery and merriment take the place of solemnity and sorrow.

Amusements.

Most of the amusements of the people have been incidentally mentioned already, such as going to fairs at shrines, marriages, funerals and visits of condolence. It is a common amusement to race bullocks at wells. A pair of bullocks is yoked to the wheel and driven round as fast as possible for a short time, and a drum is beaten to scare them; then another pair, and so on till the competitors have all had a turn. The bystanders then decide which pair is the winner. Very often bullocks race singly. The owner of the winning pair receives no reward, but is expected to give food or sweetmeats to the company. The competition interests the Jats intensely. The ordinary spectator can conceive nothing duller, and there is some cruelty in it. The only remarkable thing is the excitement of the Jats, and how they manage to raise it. The favourite day for bullock-racing is the first of *Visakh* (April-May); hence a bullock-race is called *Visakhi* at whatever time of the year it may occur. Wrestling, here called *malhan*, goes on at every large meeting. *Jhummir* is a circular dance which Jats dance at weddings and wherever they happen to collect in large numbers. They move round in a circle, dancing and clapping their hands in time. Three kinds of *jhummir* are well known: *lammochar jhummir*, or southern *jhummir; traitari jhummir, i.e., jhummir* with three claps of the hand, and a pause, which means four times; *tikhi jhummir;* or quick-time *jhummir*. A young man who can't dance a *jhummir* is very lightly esteemed. The dance is Baluchi in its origin, and camel-drivers are experts at it.

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The Aroras play *chhej*, in which, dressed in gaudy clothes, they stand in a circle with sticks like policemen's batons in their hands, and go round to the beating of a drum, striking their sticks together in time as they move. The batons have sometimes little bells attached to them, and the men often wear strings of bells above their ankles. *Dodha* (a kind of base game) is a favourite game of the peasants. *Chapli* (tent-pegging) is practised by young riders, particularly on the Rangpur side.

Horse-racing (*hath*) is also indulged in. Fishing is a sport on the banks of the rivers. During the quail season large numbers of quails are netted. The drive is considered great sport. A few people shoot with guns and rifles, but many keep dogs for pig-hunting, which is a favourite sport, particularly in the riverain tracts. People turn out by the hundred and take a number of *munj* rope nets which are fixed at one end of the jungle, the people driving with dogs from the opposite end. Some of the pigs are netted, others are shot and some are caught by the dogs. The Labanas keep nets as a rule, but some Jats and Biloches also keep their own nets and catch the pigs when they get into the nets. It is a plucky performance. Birds are shot with bows and arrows. Blunt arrows (called *ghaz*) with heavy tops are used. Camel wrestling is also popular, and horses are made to dance near Rangpur.

Boys' games are—

Giti danda, or tip-cat;

Danda guli, or hopscotch;

Chidda, marbles;

Kaudi or *Kabaddi*, a sort of prisoner's base; and

Dodha, base.

Boys, play volley-ball, football, etc., in school. The district board holds athletic meetings at fairs with a view to encouraging athletics and rural games for all.

Music.

This is not a very musical district on the whole, yet common people are fond of it in their own way. The common people usually sing *dorhas* in a shrill voice and monotonous tune. The next advanced stage is singing *kafis* (verses composed by Khwaja Ghulam Farid of Chacharan). There are also a few people who know something of advanced Indian music. The *mirasis* generally sing well. In the towns dancing girls keep up a low class of music, and they are also requisitioned at marriages in villages. Drums and pipes are always in demand at festivals and weddings. The women always sing in company at marriages and other festive occasions.

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Festivals, Fairs, Religious Gatherings.

The fairs held every Thursday at Rampur or Dinpur, a village 3 miles to the south of Muzaffargarh, at the shrine of Sheikh Daud Jahaniah, have been already noticed. The usual attendance is about 5,000. There is a fair held at Khanpur, a village 6 miles from Muzaffargarh on the Rangpur road, at the shrine of Bagga Sher, on Mondays in *Sawan* and *Bhadron*, and on the Mondays after the *Ids*. The usual attendance is 2,000. It has already been mentioned. The original name of the saint was Sheikh Muhammad Tahir. A fair is held at Harpallo, a village 20 miles south of Muzaffargarh, at the shrine of Dedha Lal, every Wednesday in the months of *Har* and *Jeth*, the attendance being about 2,500. The shrine has been already noticed. The original name of the saint was Shahab-ud-Din. He is said to have got the name of Dedha Lal because he was converted to saintship by Makhdum Jahaniah of Uch, who on the occasion turned milk into blood and made Dedha Lal drink it. A fair is held at Jalwala Pir Amir at the shrine of Musan Shah, already mentioned, near Ghazanfargarh, 17 miles south of Muzaffargarh. It is held on the 12th of *Asauj*, and is attended by 5,000 people who come from the surrounding districts—wrestlers wrestle there. A fair is held at Haji Metla, a village 13 miles from Muzaffargarh on the Kinjhar road, at the shrine of Muhib Jahaniah. It is attended by about 3,000 people of the locality. There is wrestling, and occasionally horse-racing. A fair is held at Kiri Ali Mardan, a village 5 miles from Rangpur, at the shrines of Pir Ali, Pir Kamal and Pir Fatteh Darya, on Fridays in the month of *Jeth*. The attendance is about 2,500. The tombs of Pir Ali and Pir Kamal are *naugazas*. In times of cattle plague cattle are brought there to be cured. A fair is held at Fattu Fanakka, a village near Rangpur, where there is the shrine of Din Shah, every Friday in the month of *Har*. The attendance is about 2,500. Large gatherings take place on Mondays and Sundays from *Har* to *Bhadron* at Daira Din Panah at the shrine of the saint Din Panah, of whom an account has already been given. The attendance is from 100 to 500 daily. A fair is held at Talai Nur Shah, a village in the Thal, where there is the shrine of Nur Shah, on the 14th of *Poh*. The attendance is about 2,000. The shrine has only a local reputation. The fair at the shrine of Alam Pir has already been described. On both *Ids* people gather together in large numbers to say their prayers at the *Idgah*, or the largest mosque at the place, or in the open where there is no such building. An important fair is held at Karor in honour of the local saint Lal Isan, whose shrine has been described. The fair is held annually in August and is drawn out to about 10 days. On the average of some 50,000 people attend. The local municipal committee makes all necessary arrangements, but the district board helps by holding tourna-

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ments for boys, rural uplift propaganda lectures, etc. The road leading to the shrine was paved in the time of Major Macaulay, Deputy Commissioner, Dera Ismail Khan (1871-74), and a double line of shops built, which are only used during the fair. These have fallen into bad repair, and the whole shrine requires more care than is given to it. The Hindu festivals are *Dussehra*, when an effigy of Rawan is made and burnt; *Diwali*, when the houses are lit up by *chiraghs* and bazars illuminated; *Holī*, which is a holiday during the early spring for all kinds of buffoonery; and *Bisakhi*, which is observed as a sacred day, being the commencement of the *Bikrami* year. A general fair for rural uplift is held annually at Muzaffargarh by the district board in March, and is attended by people from all parts of the district.

Names and Titles.

There is nothing peculiar about the names in the district. Some of the Muhammadan names contain the name of God or Prophet or some saint, such as Allayar, Muhammad Khan or Fatteh Muhammad; some are composed of words meaning blessings, such as *jindwadda* (long-lived), *waddhu* (prosperous) among men, and *satbhirai* (having seven brothers) among women. Certain names imply the grace or protection of God, such as Allah Diwaya (given by God) or Allah Rakhia (protected by God). It is a common thing among the Muhammadans to call a son after his grandfather. For instance, Ahmad's son will be Mahmud, and his son will be Ahmad again. Ahmad will, in turn, like to call his son Mahmud. The names of Hindus are similar to those in other Western Punjab districts.

Names are often contracted, *e.g.*—

Khudda	...	...Khudayar-Khuda Bakhsh.
Sheru-Shera	...	...Sher Muhammad.
Alu	...	...Alam Khan.
Mamdu	...	...Muhammad Khan.
Haku	...	...Hakim Khan.
Jallu	...	...Jalal Khan.
Shammu	...	...Shams-ud-Din.
Samela	...	...Ismail.

Nicknames are sometimes given to men from their personal qualities, such as *bora* (deaf), *thulla* (fat), *jhatti* (snatcher).

Sometimes a man calls his sons by names which rhyme with each other; *e.g.*, Muhammad Yar, Ahmad Yar, Barkhurdar, Allayar.

The titles of respect used are—

Malik for Jats, Khan for Biloches and Pathans, Shah for Sayyids, Mian for Koreshis and sometimes for holy men of other tribes (*e.g.*, the Mians of Thatta Gurmani who are Biloch), Jam for Dammar and other Jats of Sindhi origin in Alipur, etc., Rai for certain Jats and Makhdum for managers of large shrines. Some big people like to be called Sirdar, but the title should not be used without authority. The Hindu titles are: Chauhri for leading men all over the district, Mukkhi in the Alipur Tahsil and Bhagat for piously inclined men everywhere.

CHAPTER II—Economic.

SECTION A.—AGRICULTURE, INCLUDING IRRIGATION.

CHAPTER II, A.

AGRICULTURE.

General Conditions.

The soil of the district consists chiefly of alluvial loam more or less mixed with sand and interspersed with patches of clay, sand and salt-impregnated soil. On the whole, the soil is uniformly good, but agricultural conditions depend not so much on distinctions of soil, as on facilities for irrigation. The district has little cultivation depending on rainfall alone. The agricultural conditions therefore differ according as cultivation is carried on by one or other means of irrigation or flooding.

Floods.

The time of the coming of the floods, their continuity and their total amount can neither be calculated nor controlled since they depend on the winter snowfall in the inner Himalayas, the time of its melting, the local rainfall, the monsoon in the Northern Punjab and the action of the torrents in the north of the Dera Ghazi Khan District. Generally, the floods are scanty and precarious during May, June, September and October, the seasons of the summer and winter sowings, but are in great excess of the needs of the crops in July and August.

Agricultural Divisions.

For agricultural purposes, the district may be divided into (*i*) the Indus riverain; (*ii*) the Chenab riverain; (*iii*) the central canal-irrigated tract; and (*iv*) the Thal.

The Indus Riverain.

The floods of the Indus spread over the low-lying tract along the whole of the western side of the district. The Indus brings down enormous quantities of water in the summer which overflow the banks of the winter main stream and run inland until it is checked for the greater part by the great Sanawan embankment which runs from near Kot Sultan in the Leiah Tahsil to below Jatoi in the Alipur Tahsil. There are other *bunds* also. Again, facing the north of the Kot Adu Tahsil, the foot-hills of the Sulemans descend to near the main stream of the river, and the mountain torrents, when in spate, push the Indus over towards Kot Adu, and occasionally themselves cause erosion on its eastern bank. As a result, the northern part of the riverain in general in the Kot Adu Tahsil gets excessive flood, and is very sour and sodden. South of this tract, however, the Indus is setting to the west. Alluvion and diluvion throughout are frequent and violent, and permanent habitation outside the protective embankments is almost impossible. This is worst in the south of the Alipur Tahsil. The water of the Indus carries a good deal of sand with it, and, in consequence of the great strength of

the current, it cuts up and spoils land very quickly, while it takes time in filling up depressions and leaving alluvial deposits. The soil changes in quality from year to year as the river deposits silt or sand, and cultivation is of necessity very rough or haphazard. The conditions of the tract are generally alike, small plots of land here and there being of superior quality compared with the average lands of the tract.

Cultivation depends on the *sailab* (moisture from floods), helped in places by wells and *jhalars* (Persian-wheels) put up on creeks, or ponds or temporary dams made in creeks which are broken when water has been taken. Creek irrigation is important in the Leiah Tahsil, where there is very little canal irrigation. The Bodo, an old bed of the Indus, and the Lala are the most important of the creeks. These enter the tahsil through the Bhakkar Tahsil of the Mianwali District; and, as the people of both tahsils maintain them, the Leiah Tahsil is likely to suffer unless its interests are watched.

The Chenab Riverain.

The main stream of the Chenab (here consisting of the water of the five Punjab rivers) confines itself within narrow limits, and has consequently a deep bed. The floods do not therefore spread far and wide, as in the case of the Indus. The general tendency of the river, except where it is restrained by the protective works of the railway bridge near the Chenab West Bank Railway Station, is to swing to the west, and a portion of the land of the district is now on the east bank. There is an embankment with its base on the sand-hills of the Thal some miles north of Muzaffargarh town which runs parallel with the river to a spot about 6 miles north of the Alipur-Muzaffargarh border. In the Alipur Tahsil the problems of the cultivators in the Chenab riverain are exactly the opposite of those in the Indus. The silt deposit of the Chenab is very much richer than that of the Indus, and its water is more fertilizing. Similarly to the Indus riverain, cultivation in the tract flooded by the Chenab depends mainly on the moisture received from the annual rising of the river, assisted by wells and *jhalars* put up on creeks and ponds. Since the construction of the perennial canals in the Punjab, the spill has become very uncertain, except when there are high floods. The new headworks which are being constructed at Panjnad may further affect the tract south of Alipur in the same way.

The Central Canal-irrigated Tract.

Lying between the two riverain tracts, and, roughly, inside the great protective embankments, is the central tract which is irrigated from canals and contains the best lands in the district. There is only a very small portion of the Leiah

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Tahsil in this tract. The tract includes some estates around Rangpur town which are not protected by embankments, but receive canal irrigation. It also includes the *nahri* Thal of the Kot Adu Tahsil. The name is really a misnomer as canal irrigation has been greatly extended to the tract. It also includes the Muzaffargarh Thal, which is also mostly canal irrigated. It does not include the Thal proper of the Kot Adu Tahsil. The soil varies in richness from place to place.

The canals are all inundation canals, and will be described later.

The Thal.

At the north of the district, and removed from the rivers, lies the high sandy table-land called the Thal, which is at present beyond the reach of canal water. The tract, as has already been described in chapter I-A, consists of tumbled sand-hills, with strips of hard land known as *laks* or *pattis* intervening. Water is scarce in the Thal, and the rainfall is uncertain; so there must be a well wherever there is cultivation. It does sometimes happen that, in consequence of good and timely rain, crops are sown and raised without any help from the wells; but the land nevertheless either belongs to a well which has been out of use for some time in consequence of the poverty of the landowners, or adjoins the area attached to a working well, and is cultivated by the occupants of that well. The water-table is in the north-west during the winter 50 feet from the surface, but rises in the south-west to little more than half this depth. The grazing in the Thal is perhaps of greater importance than its agriculture, and will be described later.

Soil Classification in each Tahsil

There are considerable variations of soil, but the classification of soils in the district has always been by the method of irrigation. The simple classes are *sailab* (flood from the river or creek), *nahri* (flood from an inundation canal), *chahi* (by lift from a well) and *barani* (rain). When the land lies high above the creek or canal, the water has to be taken out by lift, and *sailab* and *nahri* change into *abi* and *jhalari*. By combination from these simple classes, *chahi-nahri*, *chahi-sailab*, *chahi-jhalari*, *nahri-abi* and *jhalari-abi* are made. Each tahsil will be dealt with separately for convenience.

Leiah Tahsil.

In the *Kachchhi* what is sand one year may be silt the next, and in the Thal the initial quality of the soil is of little importance, except in so far as it affects the amount of water given to the crops, of which the quality is determined by the water and manure. Almost everywhere the soil is clean, except in patches of the Thal, where it is supposed to be salt, though it is perhaps the well water, rather than the soil, which is bitter; and in the north of the *Kachchha*,

that portion of the *Kachchhi*, which is irrigated by flood direct from the Indus, where, since the river has set to the east, large areas which at settlement were described as the most fertile land of the tahsil are now covered with white saltpetre. The loss to the tahsil, but not to individual owners, has been made good by greatly improved soil deposited in the estates immediately to the south.

The classes of soil in the *Kachchhi* are *sailab*, *chahi-sailab*, *nahri*, *chahi-nahri*, *jhalari* and *chahi*.

In the Thal, except in the south-west of the *Jandi*, where a few holdings extend into the *Kachchhi*, and 350 acres are recorded as *chahi-sailab* and *sailab*, the only classes are *chahi* and *barani*, of which the latter is entirely dependent on rain.

Kot Adu Tahsil.

Since the whole tahsil has been made at some time by deposits of soil from the river, there are great differences in the natural soils according as the Indus has left salt, clay or sand, or as the depth and order of the strata vary. Round the towns, and on most wells, is a little made soil of which the initial quality has been changed by constant and heavy manuring to good loam. Such soil is known locally as *milk* or *gas*. Of the natural soils *darh* is a stiff clay, which cakes badly when it dries, and is difficult to work. If moderately affected by saltpetre, it changes to *rappar;* if badly, to *kalrasi*, which is white with salt and very sterile. *Dramman* is a thin layer of clay over sand. There are also numerous sub-divisions, distinguishable only by the farmers themselves, and caused mainly by the local drainage and water-supply. As the sand-hills of the Thal are approached, the proportion of sand in the soil increases, and a mixture of sand with a little clay is known as *rug*. In the Thal itself most of the soil is sand, distinguished as bitter and sweet according to the quality of the water of the wells. These soils vary in productivity, but seldom determine the crop grown in them, which is dependent on the water-supply. Accordingly they have never been recognized in revenue work, and the soil classification which is based on irrigation is (1) *barani*, (2) *chahi*, (3) *nahri*, (4) *sailab*, (5) *abi*, (6) *chahi-nahri* and (7) *chahi-sailab*.

There are more elaborate combinations of irrigation, but they are accidental. The aim of the farmer is everywhere to grow crops as cheaply as possible, so, when he can, he matures his harvest with flood water either direct from the river, or distributed through the inundation canals. When, as usually happens for the winter crops, flood water is not available till the harvest ripens, he supplements it with water raised by lift. In the Thal, whither no flood

comes, crops have to be grown either with rain only (*barani*) or with well water (*chahi*).

Muzaffargarh Tahsil.

There is a very well-marked difference in the soils to the east and west of the central wedge of the Thal. The older lands on the side of the Chenab are a rich brown loam of great fertility. The sands and clays deposited by the Indus are the same as described for the Kot Adu Tahsil. Generally speaking, the change in soil is from unmixed sand in the centre of the tahsil to clay in the west and to loam in the east till on the banks of either river new deposits of sand are again found. Throughout the tahsil, except among the sand-hills of the north and in the very south beyond the end of the Chenab embankment, the soil is almost everywhere infected with saltpetre. This will be dealt with under the side-heading "Water-logging."

The soils are classified as (1) *chahi*, (2) *nahri*, (3) *sailab*, (4) *chahi-nahri*, (5) *chahi-sailab*, (6) *abi* and (7) *barani*.

Alipur Tahsil.

The soil of the tahsil is naturally poor in the Indus riverain and in many other parts which differs mainly because of deposits from the Indus River, the silt of which is sandy and infertile, in marked contrast to that of the Chenab. In the Chenab riverain alone is there any natural fertility, and that found elsewhere is almost entirely the result of human industry and heavy manuring.

System of cultivation in each Tahsil.

The system of cultivation is practically the same throughout the district. The well is the unit of cultivation and an example of the whole system in use. The systems have been described in the assessment reports of the tahsils, and are as follows:—

Leiah Tahsil.

In *sailab* land ploughings are made when the flood water recedes, and of necessity are in normal years few and hurried. In the best of such land wheat is sown, but gram, peas and barley are usually found more suitable. The cultivation of *chahi-sailab* lands is more careful and systematic than that of the *sailab*. The date when ploughings begin varies with the seasonal differences in flood, but in the higher lands is in September. Five ploughings are given to the wheat lands, and such manure as well cattle supply is spread on this land. After the ploughings the clods are crushed and the surface levelled by a light wooden roller, and the better cultivators prepare a tilth with the forked harrow which the worse use only for heaping up the boundaries made to divide the fields into plots convenient for well irrigation. The first crop in the ground is the turnip, sometimes sown mixed with gram and barley, which are essential for the food of the well cattle in January and February. These are sown in some of the best-manured land

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near the well cylinder. Wheat and barley are sown in October and early November always with the drill. Wheat and barley get from five to seven waterings according to the depth of the flood and the nature of the rainfall. The only winter and spring crops are a very small area of vegetables and tobacco grown near the towns; a very little bad cane is, and long has been, grown in a few of the central villages, but in a good year its area is less than 100 acres. It is all of the thin variety, though near Leiah town about 5 acres of the thick *paunda* cane is grown for sale in the sweet-shops. The barley and gram ripen in the first week of April; the wheat is later, but the whole crop is off the ground by the end of the month. In late March and early April melons, tobacco and the summer fodders are sown, the latter often in land which has been under turnips, the former in small very heavily manured plots. Threshing, which has to be hurried through to get the crop off the floors before the floods rise, occupies May, after which there are further sowings of fodder, *jowar* and *bajra;* as the waters rise, the annual making and breaking of the dams, for which the times vary with the seasons, are carried out. The last of the summer crops are cut by November; but, as most of them are grown for the use of the men and cattle working the holding, there is no real season of harvest, and cuttings continue during the summer. The principal summer crops are *jowar*, *bajra*, tobacco, cotton and melons. The cultivation of the small area irrigated by the inundation canal calls for no comment. The more or less controlled supply takes the place of flood, and permits the growth of a little rice.

Leiah Thal.

In the Thal the place of flood is taken by manure. Ploughings are made after each fall of summer rain, and during them the flocks are folded for three months on the fields. No clod-crusher is needed. The wheat and barley are sown broadcast in October and November, after which the field is harrowed and divided into plots, which vary in size with the nature of the soil, but are often as small as 6 feet × 4 feet. Among these run the raised water-channels carefully plastered inside with clay to prevent seepage. Turnips are the first crop sown, usually in the best land near the well, though, owing to heavy manuring, crops are far more level than in the *Kachchhi*, and there is not much difference now between those of the outlying plots and those near the well. The rabi crops are off the ground by the middle of April, before which time melons, tobacco and indeed most of the kharif has already been sown in land manured with the droppings scraped from the floors of the byres and folds, or purchased and brought to the ground on camel-back. Most of the cultivation of the Thal is very laborious and good,

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though its apparent excellence is rather exaggerated by the natural absence of weeds, and the light easily-worked soil. As much as from 80 to 120 pounds of wheat are sown to the acre as compared with from 60 to 80 in the *Kachchhi*. In a year of good rainfall the crops ripen with only three waterings from the well. In a year when the summer rains are good rain melons are sown on the sand-hills; and, if there are some heavy falls in September, the fields farthest from the wells in which irrigated crops are seldom cultivated are put under rape, or more rarely gram. In the northern and eastern *Kalan* the latter crop is also sown with the drill in the flat bottoms among the sand-hills, but this can only be done in a very favourable season.

The *lu*.

A natural feature with which the well-owner has to reckon is the *lu*, a hot wind which, in the Thal *Kalan* especially, very frequently dries up the rabi crops just as they are maturing, and blows with such force during August and September as to make it difficult to grow any kharif crops, except those designed merely for fodder.

Kot Adu Tahsil.

The 200 acres of rape in the Thal is the only crop grown solely with the scanty and precarious rainfall. Elsewhere the cultivation changes from *sailab* on the banks of the Indus through *chahi-sailab*, *nahri* and *chahi-nahri* to the unaided well cultivation of the Thal. It thus becomes more onerous and expensive from west to east, as is shown by the fact that in the *Bet* 79 per cent. of the cultivated land is held by tenants, in the *pakka* 57, in the *nahri* Thal 47 and in the *chahi* Thal only 31. Except in those parts of the riverain where the land is most insecure and the flood most secure, the accidents of the season are so incalculable throughout the tahsil that the unit of cultivation is everywhere the well, and on it the system is based, though the expenses of unaided well cultivation are too heavy and yields in the tahsil are too poor for *chahi* cultivation to be profitable; and the working wells in the Thal are all held by shepherds, dealers in wool, camel-men and similar persons, who have for their other business to keep a well in work, and find it more profitable to use the manure, which they get free, in growing crops, than to import food. In the other circles the well exists as an insurance against bad seasons, but is used as little as possible, and the aim of the agriculturists of the tahsil is to grow the maximum of the most valuable crops which the nature of the soil allows with the least possible use of the well, and the greatest of the very uncertain rainfall and flood or canal supply. The year begins with the very heavy floods of August and September; when these dry, the land is ploughed for the winter harvest. In the dampest depressions there is only time for one ploughing, and peas or lentils are sown. In the drier lands from three to five ploughings are made,

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and wheat, barley and turnips are sown. When the land has been under flood from the main river, these crops will ripen without other irrigation if the winter rains are moderately good and timely. This is the *sailab* cultivation of the tahsil. When the flood is from creeks or canals, it is less deep than that of the main stream, and has to be supplemented with water lifted from the creeks or wells. This is the *chahi-sailab*, *chahi-nahri* and *abi* cultivation. When by the end of April the winter crops have been removed from the land, so soon as the canals open, *bajra* and fodder are sown, and in the eastern *pakka* and *nahri* Thal, where alone the soil is clean enough for their growth, indigo, cotton and melons. In the *chahi-sailab* tract, wherever the land is sufficiently high to escape all but the highest floods, but yet low enough to get moisture by percolation, some *bajra* and fodder are sown. In June, when the canal supply increases, rice is planted. So soon as it is cut, the land is ploughed once, and gram sown in the stubble. This is the *nahri* cultivation of the tahsil. In a normal year wheat, barley, turnips and vegetables get five waterings from the well between November and April, and the early fodder of the summer may get one watering; there is no water from the well to spare for the other crops. Though no dung is burnt for fuel, the available manure is only sufficient for the annual manuring of all the vegetables and tobacco, and of about half the well-irrigated wheat, barley and turnips. *Sailab* and *nahri* crops get no manure.

A summary of the manner in which the water-supply is employed is this—

(1) all kharif crops are *nahri* or very seldom *sailab;*

(2) all peas and gram are *nahri* or *sailab*; and

(3) all vegetables, gardens and turnips are *chahi-sailab*, *abi* or *chahi-nahri*, as are all wheat and barley, with the exception of those grown with flood alone on the banks of the Indus. Very rarely, if a canal is kept running unusually late and the rainfall is very favourable, the wells are not brought into use, and there is a little wheat which is classified as *nahri:* but this is an accident, and normally none can be grown at any distance from the river or creeks without the aid of well water.

Kot Adu Thal.

In the *chahi* cultivation of the Thal circles the year begins with the folding of the flocks on the fields in the months of July, August and September. After each fall of rain the land is ploughed, and the winter sowings are made

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in October. These are broadcast, unlike those of the canal lands and *Bet*, where all sowings are made with the drill, except those of peas and gram, which are often broadcast, and those of such crops as cotton and rice, of which the seeds or seedlings are dibbled in separately. The clod-crusher used by the better cultivators in the other circles is not needed in the light soils of the Thal. After sowing has been finished the field is harrowed and divided into plots for well irrigation. On account of the sandy soil the plots are very small, sometimes only 4 feet × 3 feet, but varying in size with the capacity of the soil to retain moisture. The distribution of the water is made with far greater care than in the other circles: it is led through channels carefully plastered with clay to prevent seepage, and great pains are taken to secure an equable and moderate flow. The sandy soil needs less water than the stiffer clays near the river; and, if there are two fair falls of rain, three waterings from the wells mature the crop, which is harvested in April. In late March and early April manure is carried from the folds and cattle-sheds to the fields which are not under rabi crops, and the kharif is sown. Owing to the heat of the Thal, this is of necessity a small harvest, but efforts are made to grow enough *bajra* and fodder for the men and cattle who are needed on the well for the ploughings of the winter crop. A very little cotton is also grown in small plots.

Muzaffargarh Tahsil.

The system of cultivation is that of the rest of the district, though the general standard is rather higher than in the other tahsils. In the riverain lands, so soon as the soil dries sufficiently for the plough to run, wheat is sown in the higher lands. In the lower, where moisture is excessive and the caked surface can only be broken into large clods by a single ploughing, peas, gram and more rarely barley are grown. The latter crops are all *sailab*, as also on the Indus west of the Ghuttu is much of the wheat. On the Chenab, in a year of good flood and rainfall, most of the wheat is *sailab*, but it is all protected by wells, and sometimes the whole crop is *chahi-sailab*. In the highest lands *jowar*, *mash*, *til* and a little cotton and *bajra* are grown on flood water, but there can be little *sailab* kharif, and what there is is very insecure. In the canal lands the first of the water is used for indigo, early fodder and the cane which has been planted with well water. As the supply improves, rice is planted out and cotton and *bajra* are sown. In late July, when the maximum canal supply is supplemented by the summer rains, the wheat ploughings begin, and are continued till September. In that month the rice is cut, a hurried ploughing is given to the land and gram or peas are sown in the stubble. The wheat sowings begin in October, and should be finished by the first week in November, after which the plough cattle

are used on the wells. The wheat is cut by the end of April; the barley, gram and peas by the middle of that month.

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Alipur Tahsil.

The agricultural operations of the year begin at the end of April or early in May with the melting of the snow in the hills. The river rises, though not to its full height, and the canals begin to flow with a low supply. Indigo, rice seedlings and a little fodder are sown. The cane which was planted in February with well water also receives canal irrigation. In July the monsoon bursts in the hills, and the canals run with full supply; rice is transplanted, and cotton, *bajra* and "others" are sown. In August, when the canals continue to flow with full supply, the wheat and cane ploughings begin. As the summer crops need as much water in this month as they did in July, and as water is also needed for the winter ploughings, it follows that, unless the August canal supply be augmented by rain, some of the sown area will have to be abandoned; and, in fact, the better the July supply, the larger will be the failed area unless the August rains are good. About the middle of September the river falls rapidly, and the canal supply ceases.

The harvesting of the summer crop, dependent on an uncertain canal supply supplemented by capricious rainfall, is obviously a gamble.

In October and early November the winter sowings are made; wheat on the lands near the wells, and gram and fodder in the stubble of the rice. The area of these sowings is determined by the summer rain and canal supply; and, when these have been good, is wider than can be matured by well water alone without the aid of winter rains. Little will be shown in the crop returns as failed since the farmer, hopeful to the last, refuses to abandon any of his wheat, and takes a short yield from a large area in preference to a heavy one from a small area efficiently watered. The winter harvest is as much of a gamble as the summer one, though, as the fluctuations are of yield, rather than of area, there is no record of its uncertainty. In both harvests the area is controlled by canal supply, the yield by the rain.

Rotation of Crops and Fallows.

The general practice is to divide each estate into two parts. In one part kharif crops are sown, in the other rabi. The following year kharif crops are sown in last year's rabi half, and rabi crops in last year's kharif half. This alternation is called *dupar*. There are exceptions to this rule, especially in the richer lands and where manure is abundant. In sugarcane lands the rotation is generally turnips, sugarcane, indigo and wheat. These lands are always under crop, and the strength of the soil is maintained by heavy

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manuring. Wheat and barley are believed to do well after indigo and rice and peas or gram are generally raised off the rice-fields. Wheat, cotton or melons thrive after sugar-cane. *Jowar, bajra, moth, mung* and *mash* do well after wheat and barley. The five kharif crops just mentioned are usually the end of a series of crops. After any of them the soil is considered to be exhausted, and to require renewal by manure and constant ploughing. The people appreciate repeated ploughings as a restorative. Their expression is that the mouth of the soil is opened by the ploughs, and attracts the sun and moon. In the richer parts the land is never allowed to lie fallow. Where manure is scarce, land is cultivated every alternate year. The soil called *dramman*, which is easily exhausted, is sometimes allowed two or three years' rest between every two crops. All rules of rotation and fallows are liable to be broken if the canal-running season is prolonged. Like inundation water, canal water is so rich in silt that it manures, as well as irrigates.

In the Thal, on those wells which have a good supply of manure, about one-quarter of the cultivated area is left fallow and the kharif is planted in different fields every year. The usual rotation is wheat or barley, wheat, turnips, fallow, kharif, wheat, wheat. In the western Thal, where in places there is no grazing for flocks, so that sheep never come and manure is lacking, much longer fallows are given, and usually half the holding is not sown every year.

In the canal estates indigo and most of the cotton are sown in outlying sandy fields where nothing else is grown, except occasionally *moth* and other summer fodders. Indigo, which often does better the second year, almost always, and cotton sometimes, remain two years in the land, and give a second crop. Rice, except the latest sown which is not off the land in time, is almost invariably followed by gram, and this rotation continues indefinitely.

In *chahi-sailab* and *chahi-nahri* lands wheat, fallow, wheat, fallow is the rotation, except in the most heavily-manured fields near the wells, where a little cotton, *bajra* or summer fodders are sown, and there is only a fallow every fourth harvest.

In *sailab* land there is no rotation, and the crops sown depend on the nature of the flood.

Manures.

The alluvial tract is never manured. The deposit renews its strength. In only one case is inundation hurtful: that is, when the flood deposits its silt on the land nearest the river-bank, and it finds its way inland, flows over land impregnated with salt, which it imbibes. When in this state,

it is called *kala pani*. In the remainder of the district the use of manure is general. The manures in use are— CHAPTER II, A. AGRICULTURE.

(1) farmyard manure;

(2) indigo refuse called *valh;*

(3) green manuring or *sabz khad;*

(4) clay from the canal spoil banks; and

(5) sand from the Thal sand-hills.

The two last are known as *pana*. Manure is applied by being worked into the soil. Cattle are tied in lines called *dhara*. Sheep and goats are penned on it. In the Thal a fee of grain will procure the services of a score of goats and sheep for a long winter night. The fee is called *ahali*. The dung of sheep and goats is better than that of cattle, but even that of camels, though full of deleterious salts, is used when none other is obtainable in places in the Thal. The dung of the powindah camels is preferred. Manure is sometimes pulverized and applied by top-dressing to growing crops. In this state it is called *chhana*. It is also applied by handfuls to young plants. The name for this is *chungi devan*. Green manuring or *sabz khad* has been introduced on a small scale recently. *Guara*, *san* or other such crops are grown during the summer and ploughed in as soon as they come into flower. Poor soils wanting in organic matter are enriched by green manuring.

Water-logging.

Of water-logging there are two stages; if the summer water-table rises above a certain height, and in the Kot Adu Tahsil it is often so high that the water gushes out of the wells, the land becomes very harsh and sour; cane, cotton, indigo and tobacco cannot be grown on it, and only indifferent wheat; rice, on the other hand, does excellently, especially if followed by gram to sweeten the soil. This cropping, however, with the heavy watering which it entails, augments the evil, and ultimately, as can be seen in some of the estates where water-logging is worst, the land goes out of cultivation altogether. Water-logging destroys mango trees, which slowly wither from the top if standing in water-logged land; when very bad, it rots the roots of the date-palms.

If water-logging continues for a number of years, in certain conditions it causes the salts, which, as the brackish water in the wells shows, everywhere underlie or are mixed with the soil, to rise to the surface. There they cake and form a white crust which turns to an impalpable dust when subjected to friction. Where these deposits are worst, no plant of any kind will grow in them; as the infection decreases, the vegetation passes in succession from tamarisk scrub to rough grass, bad rice, good rice and indifferent wheat

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and barley. Saltpetre is worst in places where surface water stands under the sand-hills of the Thal and in the great depression near Sanawan and Gurmani, but both it and water-logging vary in degree and in area from year to year according to the rainfall and flood, and it is difficult to define their limits. As, however, would be expected from the canal supply, they have certainly increased since settlement, when white saltpetre was found in certain estates near the embankment and in the depression. It has now spread outwards from the depression about two miles to the north and a mile to the east, where it is very bad in the western parts of some of the estates of the *nahri* Thal of the Kot Adu Tahsil; it is also continuous along the Sanawan embankment to the northern boundary of the tahsil. South of the depression, where the canals, as a rule, run below the ground-level, salt-petre is bad only in the strip of country between the outer sand-hills of the Thal and the railway embankment near Mahmud Kot. It is also bad between Muzaffargarh and Rohillanwali, and north and south-west of Alipur town.

Where water-logging is worst, the population is stationary or has decreased slightly. Its stamina, physique and energy are sapped by fevers and diseases of the kidneys, which are the cause of the listlessness inevitable in people living in such conditions. This listlessness has been blamed as one cause of water-logging, though this is putting the cart before the horse. The zamindar is really helpless in the matter.

The *soma* near Sanawan was so bad at one time that the tahsil was transferred to Kot Adu. There has been an improvement in recent years as certain branches of the canals have been closed in the course of remodelling.

Wells.

Throughout the district no profitable cultivation is possible without the aid of a well, except in the narrow strips of country on either river where floods are so deep that *sailab* rabi corps can be grown. In the Thal, where there is unaided well cultivation, the profits are on most wells derived not so much from the crops as from the flocks and herds which belong to the owners of the well. On the extreme west of the Thal near the railway line and the small towns there are a few wells mostly belonging to Hindus where tobacco and vegetables are grown intensively at a great profit, but on the Thal as a whole the wells are worked, in the first instance, not for the crops, but to water the beasts; and, if there is murrain and the flocks die, the wells automatically close down. In the Thal an increase in working wells means an increase in sheep, and is an indication of prosperity.

Agriculturally the most important parts of the district are those in which the system of cultivation is *chahi-nahri* or

chahi-sailab, that is to say, where the sowings of both harvests are made with flood water, and the wheat, which is by far the most important crop, usually between 50 and 60 per cent. of the total cropped area, is matured by well water. In these areas a well is a form of insurance; it is never used more often than is necessary; and when the floods have been unusually good, and the winter rains unusually plentiful and timely, the well, particularly on the richer Chenab side of the district, is sometimes not worked, or a single well waters an area in which, if the season be bad, three or four wells are brought into use. From this method of cultivation it follows that an increase in the number of wells is not in itself a proof of prosperity since wells may be sunk not only to utilize a previously wasted flood supply, but also to supplement a failing flood supply, in which latter case the farmer gets the same crops as he did before, but has his profits reduced by the cost of sinking and working more wells. In the northern Leiah riverain the river is setting to the west, and the countryside has been cleared of the heavy growth of poplar and elephant grass which used to cover it. The floods on the whole are not as high as of old, and run more quickly off the denuded ground; in this tract the number of wells has been greatly increased without any profit to the cultivator. Further south in Kot Adu many new wells have been sunk to help the plentiful irrigation from the Kot Sultan and Maghassan, and here the increase in wells is an indication of the growing prosperity of the tahsil. Further south in Muzaffargarh nearly all the new wells are a proof of the deterioration of supply from the Chenab and the Maggi. There has been a moderate increase in the Indus riverain, which is more protected and better than it was at settlement; in the north of Alipur an increase in wells has been made to meet a decreased canal supply, while in the south of the tahsil there has been a large increase along the Sulemans where development has been good since settlement. Below is a table showing the

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number of wells, though without local knowledge it is misleading:—

Name of Tahsil.	Detail of Well.	Average for selected period of years. Settlement.	Now.	Actuals, 1903-04.	Actuals, 1925-26.
Leiah ..	In use ..	3,826	5,688	4,316	6,089
	Fit for use ..	161	246	335	717
	Total ..	3,987	5,934	4,651	6,806
Kot Adu ..	In use ..	4,049	4,680	4,195	5,095
	Fit for use ..	389	738	471	870
	Total ..	4,438	5,418	4,666	5,965
Muzaffargarh ..	In use ..	5,633	6,414	5,930	6,567
	Fit for use ..	409	691	391	980
	Total ..	6,042	7,105	6,321	7,547
Alipur ..	In use ..	2,757	4,415	3,559	4,650
	Fit for use ..	1,539	1,294	1,173	1,503
	Total ..	4,296	5,709	4,732	6,153
Total ..	In use ..	16,265	21,197	18,000	22,401
	Fit for use ..	2,498	2,969	2,370	4,070
	Total ..	18,763	24,166	20,370	26,471

Obviously any form of assessment of revenue which places the burden on the well itself, and not on the crops irrigated from it, is to be avoided in so much as, the worse the season, the more wells are worked; and, generally speaking, the less profitable is the crop.

Kinds of Wells.

Wells are of two kinds: those lined with masonry (*pakka khuh*), and those lined with either logs or wattles, which are called *kharoras*. A well lined with logs is called *ghat da kharora*, a well lined with wattles is called *lai da kharora* because the wattles are made from the *lai* bush (*Tamarix dioica*). No wells are unlined. The soil is so fine that unlined wells cannot be made. The wells are all worked by the Persian-wheel. A well lined with masonry costs from Rs. 300 to as much as Rs. 1,800 in the northern Thal; except when a well is sunk by contract for a Hindu or a rich Muhammadan, most of the manual work is done by the owner himself and his relations and hired men. Often there is an *adhalpi* agreement with another person who sinks the well at his own expense and in return is given a share, usually ⅓rd, in the land irrigated from the well.

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The expenses for wells are dealt with in section B of this chapter.

Agricultural Implements and Appliances.

To cultivate a small holding, say of 15 acres, two yoke of oxen are required. The well ropes and pots require frequent renewal. The other implements would be one or two ploughs, one or two yokes (*panjali*), a drill (*nali*), one or two rakes (*jandra*), a wooden roller (*malha* or *mehra*), a mattock (*kahi*), a smaller kind of mattock (*wahola*), a sickle (*datri*), an axe (*kuhari*) and a pitchfork (*trangal*).

Matured and Cultivated Areas.

The table below taken from the recent settlement report shows the changes in cultivation caused since settlement by the change in the management of the canals and the inferior flood supply from the Chenab:—

	Chahi.	*Chah-Nahri.*	*Chahi-Jhalari.*	*Nahri.*	*Jhalari.*	*Chahi-Sailab.*	*Sailab.*	*Barani.*	*Abi.*	*Nahri-Abi.*	*Jhalari-Abi.*	Total.
1	2	3	4	5	6	7	8	9	10	11	12	13
1. Cultivated area at settlement.	48,859	138,114	1,728	163,813	3,091	80,145	209,917	42	23,736	6,731	2,755	688,631
2. Cultivated area according to new measurement.	59,168	225,724	2,225	119,892	527	103,151	179,232	8,254	14,423	6,759	32	719,387
3. Matured area at settlement.	42,116	133,865	1,526	154,048	3,228	82,420	160,290	701	23,341	2,397	2,771	606,721
4. Matured area now ..	60,020	118,862	1,308	120,613	471	79,341	125,575	3,572	11,607	3,215	21	524,605
5. Percentage of whole at settlement.	7	22	..	25	1	14	26	..	4	..	1	100
6. Percentage of whole now.	11	23	..	23	..	15	24	1	2	1	..	100

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The increase in *chahi*, both in cultivated area and in cropped, is proof of the great prosperity of the Thal.

Chahi-nahri and *nahri* land must be taken together since their cultivation is interdependent. At settlement their total area was 301,927 acres, out of which 287,913 were matured, *nahri* standing to *chahi-nahri* in the proportion of 15 to 13. There are now 345,616 acres of cultivation, but only 239,475 of matured crops, *chahi-nahri* stand to *nahri* in the proportion of 11 to 12 matured and 2 to 1 cultivated. The area under the plough has increased, as has that to which well irrigation is given, but the matured crops are less; on the whole, the increase in wells has not been sufficient to balance the less secure canal supply.

The fact that wells can never be a substitute for floods is shown also in the classes *chahi-sailab* and *sailab;* at settlement these totalled 299,062 acres, *chahi-sailab* being to *sailab* in the proportion of 3 to 7; the matured area was 242,128, in the proportion of *chahi-sailab* 1, *sailab* 2. The cultivated area is now 282,383 acres, *chahi-sailab* standing to *sailab* as 5 to 9; the matured area is 204,916, and the proportion of *chahi-sailab* to *sailab* 2 to 3. A large number of new wells has been sunk along the Chenab riverain and the Leiah-Muzaffargarh Indus circles; but, since less water now passes down the Chenab and the Indus is swinging to the west, the matured area of both classes is 15 per cent. less than it was at settlement, although a greater proportion of the whole receives irrigation from wells.

The decrease in the *abi* classes is due to the same reasons as that in the *sailab*.

The great increase in the *barani* is accounted for by the spread of gram cultivation in the northern Leiah Thal.

Cropping.

The cropping of the district as a whole shows very little variation, though the figures as they stand are misleading. The table below, from the recent settlement report, shows

the percentages of the total matured area occupied by the various crops:—

Crop.			At Settlement.	Now.
Rice	..	..	6	7
Jowar	..	..	4	2
Bajra	..	..	5	3
Cotton	..	..	4	6
Indigo	..	..	3	1
Til ..	..	..	..	1
Total Kharif		..	22	20
Wheat	..	..	53	57
Barley	..	..	4	5
Gram	..	..	6	10
Peas	..	..	2	1
Oilseeds	..	..	3	2
Turnips	..	..	10	5
Total Rabi		..	78	80

Rice, which used to be found in small quantities throughout the canal areas, is now little grown, except in the Kot Adu Tahsil, where, followed by gram, it has replaced cotton and wheat. Cotton of the worst drought-resisting native varieties has taken the place of rice in the south of Muzaffargarh and the north of Alipur, and is the crop which is generally grown instead of indigo, of which there was a short-lived boom during the war; normally, however, indigo is dead—killed by the competition of synthetic dyes—except in a few places on the edge of the Thal and in a sandy bed of the Indus which crosses the Alipur Tahsil, where it is the only crop which can be grown. Wheat has increased by 4 per cent. principally in the area where *nahri* and *sailab* cultivation has changed to *chahi-nahri* and *chahi-sailab*, and also in the new wells on the Thal, where it is the staple crop and usually about 80 per cent. of the matured area. The decrease in turnips is very remarkable; the area under them at settlement was too large, but in places, particularly in the Leiah riverain, not enough are now grown, and the cattle are underfed during the early winter.

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As a rule, the cultivator in Muzaffargarh cannot select such crops as promise the best return, but is controlled in his choice by his water-supply. Indigo was his best crop, and this he has lost.

Kharif Crops—Cotton.

Cotton is grown on a very small scale in the district, and mostly in the central tract or near the wells. In no circle has American cotton yet been successfully grown, and the local variety is distinguished rather for its hardness than for its yield. Most cultivators try to grow enough cotton for the rough homespun, which is the almost universal wear, but there is little grown commercially. The land is prepared in February and March. Five to seven ploughings are given, and the clod-crusher is dragged over the ground after each ploughing. The seed is prepared by being rubbed in cowdung and then dried. The sowing usually starts at the end of April and continues as late as the middle of June, the full swing being when the inundation canals have started to flow. Early sowings, however, are taken up on the wells, but on a restricted area only. The seed is sown broadcast or drilled, and the land is divided into beds of suitable size for irrigation. Two waterings are then given at short intervals. When the young plants are about two feet high, a plough is driven lightly among them to loosen the soil. The cotton ripens at the end of September, and picking goes on from then till December. Cotton is picked by women every eighth day, Their share is called *bhanji*. Four to eight seers of seed are sown to the acre. The yield per acre in normal years averages four to five maunds. The enemies of the cotton crop are *mula*, a blight that begins at the stem and spreads over the plant, the soil becoming water-logged (*soma*), and a red worm that attacks the cotton in the pod. The boll-worm does much damage in bad years. The white fly, recently discovered, also does some damage.

Indigo.

Indigo grows in the richest soil, as well as on light sandy lands. It was one of the favourite crops, but unfortunately it has now decreased. It is a difficult crop, requiring a clean soil, and is not tolerant of saltpetre; it also requires a more ample water-supply than can be given from a well. The spread of water-logging has affected it. Another cause has been the decline in price due to the competition of German synthetic dyes, but this has not been the main cause. It is a delicate crop, and is likely to attack by a multitude of insect pests. The land is prepared in February and March, and the seed is sown from the 15th March to the 15th May. Indigo is usually sown every year, but it is possible to get crops for three years off the same plants. Indigo is ready for cutting from the 15th July to the 15th September. It is in its prime when it has been from 12 to 15 days in flower. If the flowers fade and become yellow before it

is cut, the outturn will be small. It is cut in the morning and carried in bundles to the vats, where it remains till the afternoon. Then the churner (*vilora*) comes and puts the indigo into the vats, and weights it down with heavy logs of wood. Water is turned on, and the vats are filled two-thirds full. The vats are in sets of three: two large and one small. A set of vats is called a *jori*, and a number of sets together a *kharha* or *akharha*. When one watch of the night remains, the indigo has been sufficiently steeped. The churner takes out the plants, and, with a churning-stick called *madhani*, churns the water for about two hours. The sediment is allowed to sink to the bottom of the vat, and the water is run off. The sediment is then placed in the small vat, and is allowed to settle again. Then the water is run off a second time. The sediment is removed, and made into cakes called *giti*, and dried. At each churning a pair of vats produces from 1½ to 3 seers of indigo. The preparation of the indigo is most carelessly done, with the result that the value of it is diminished. If indigo is grown for seed, it ripens in November and December. Sixteen seers of seed are sown to the acre. The stalks and leaves, after being taken out of the vats, are called *valh*, and form a valuable manure.

Jowar.

Jowar is sown for fodder in March and April, and for grain in July and August, but in the Thal a second sowing is made for fodder in July. The grain ripens in October, and, while ripening, is protected. A maund of seed is sown to the acre. It is not often allowed to ripen, but is cut for fodder.

Bajra.

Bajra is a crop grown in places entirely by the poor man for his own consumption, and is badly needed in the autumn, when the purchase of wheat for sowing has forced up the price beyond the reach of the poor. The ears of the standing *bajra* ripen at different times, and the practice is for the women to cut daily such as are ripe for that day's food. *Bajra* is sown from the 15th July to the 15th August. It is protected while ripening like *jowar*. The stalks of *bajra* are never cut and stored for fodder like *jowar*, but are left standing for the cattle to eat, and great waste is the result. The best is that sown in the heavily-manured lands near the towns after tobacco, or after wheat which has been cut when green for fodder.

Rice.

Rice is sown from the 15th April to the 15th May in nurseries, which are manured a hand-breadth deep with ashes or finely pulverized manure (*pah*), and which are very carefully washed and weeded till the seedlings grow about eight inches high, which they become in a month. The seedlings called *bijara* are planted out at a distance of a *hath* (foot and a half) from one another in well-prepared land in which water is standing. This water is allowed to dry up once, but after that the plants are kept submerged. Rice requires

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a regular supply of fresh water every ten days, which cannot be guaranteed to it from flood. It is one of the few crops which is carefully weeded. It ripens from August to October. The grain is extracted by the sheaves being beaten against a log or bank of prepared clay. A little *begami* is grown on the Chenab canals, but most of that grown is the usual coarse red-husked variety of the district.

Sugarcane.

Sugarcane is grown in every part of the district, except the Thal and the inundated tracts; but, as it requires capital and abundant manure, it is mostly found in the neighbourhood of towns. The selection of land is generally made from fields which have just borne wheat. Beginning from May, the land is ploughed from four to five times during the summer. After each ploughing the land is rolled and levelled. It is then heavily manured. Between September and January a crop of turnips is taken off the land. The local theory is that turnips do not exhaust the land. The truth is that fresh unrotted manure is used, which requires the extra handling and watering caused by raising a crop of turnips to make it sufficiently decomposed to be beneficial for sugarcane. After the turnips have been removed, the land is ploughed eight times more and rolled. The sugarcane is then sown in February and March. Canes for seed are stored in mounds covered with earth called *tig*. These are opened, and the canes are cut into pieces, with one or two knots in each. A plough, which has a brick fastened across the sole to make a furrow, is driven through the ground. A man follows, who places the pieces of sugarcane continuously in the furrow, presses them down with his feet and covers them with earth. Then a log of wood *ghial* is dragged over the field. After planting, the only care which sugarcane requires is constant watering and hoeing. Two hoeings are considered sufficient. Sugarcane is cut and crushed from the end of November to the end of January. The double-roller wooden crusher is still used in places, although it has been replaced generally by the iron crusher. The varieties of sugarcane grown are mostly *kansor*, *kahu* and *katha*. *Ponda*, the chewing cane, is grown to a very limited extent. The Agricultural Department has recently introduced Coimbatore varieties, like Co. 205, Co. 210, etc.

Moth.

Moth is grown only on canal-irrigated lands, especially in the Thal, and is nearly always used for fodder, though seldom fed to well bullocks. If intended for grain, *moth* is sown in June and July; if for fodder, it is sown in August. A single ploughing is considered enough for *moth*.

Til.

Til is sown in August chiefly on *sailab* lands; on the Chenab much of the crop is very fine. One, or at most two, ploughings are considered enough. *Til* ripens in November. The crop will thrive on any soil, except *shor* or *retli*,

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but is a delicate crop, easily damaged by both an excess and a deficiency of flood; and, since its stalks are useless for fodder, is seldom grown if any other crop can be cultivated.

Rabi Crops—Wheat.

Wheat is everywhere the great crop, and many of the others are grown only to feed the men and beasts who are needed for its cultivation. The chief varieties are a red bearded kind, and a white beardless, of which the latter is the better. The Thal wheat is the best in the district. The land is ploughed from five to seven times. On the banks of the rivers, if the alluvial deposit be friable and soft, one or two ploughings are considered enough. The fifteenth of Katik, which corresponds to the end of October, is the day for beginning to sow wheat, and sowing should be over by the fifteenth of Manghir, or the end of November, though, in practice, it continues throughout December. The seed is sown broadcast (*chhatta*) or drilled (*nali*). Fields are ploughed after being watered (*rauni*); and, if they do not dry up till the sowing, seed is scattered and the land ploughed and rolled. It is not watered till the sprouts are out of the ground. This is called *pakka chhatta*. But, if the moisture dries up before sowing, the fields are watered after scattering the seed. This is called *kur chhatt*. On alluvial lands and other heavy soil seed is sown with the drill when there is moisture in the land, and then the field is not watered until the sprouts are out. But, when the land has no moisture, the method of *kur chhatt* is adopted. Sowing with the drill is supposed to be surer and more productive.

The essentials for a good crop of wheat are popularly considered to be—

(1) sowing in Katik;

(2) watering in Poh;

(3) top-dressing in Manghir; and

(4) good seed.

Wheat is watered from three to nine times. The number of waterings depends on the kind of soil and on the weather. Green wheat is largely used for fodder, and, while the grains are tender, the ears are roasted and eaten by people. Wheat is liable to be attacked by the following diseases or blights:—

Dhanak.—In March and April the grains shrivel up and become curved and black. This is also known locally as *mamni*. This results in a calamity, and the introduction of gall-free seed alone can prevent it. The Agricultural Department has made a start by introducing an improved type of seed free from the ear-cockle galls, but on account of ignorance and lazy habits the people are very

slow to profit by it. Propaganda is, however, being done by the agricultural staff posted in the district to effect some change, and demonstration plots of gall-free and infested seed are made on the zamindars' own lands to show what is possible in this line;

Kani, or smut.—The grains become black, and turn to a substance like ash;

Ratti, literally redness.—The whole plant becomes yellow and shrivelled. It is said to be caused by extreme cold; and

Jhalla, a hot westerly wind that scorches the crop.

The weeds noxious to wheat are *bhukal*, *jaudal*, *jawanh* or camel-thorn, and the thistles called *lehu* and *kandiari*. The day for beginning to reap wheat is the first of Baisakh, about the 12th April. Harvesting operations, however, begin a week or ten days earlier in the Thal and a week later in the riverain tracts. Each day's reaping is carried in the evening to the threshing-floor and is trodden out by oxen tied to a stake in the centre. The action of the oxen is helped by a heavy log called *phalla* being dragged by them as they move round. The cultivators rarely winnow their own wheat. The Agricultural Department has introduced 8-A and Pb. 11 bearded varieties of wheat, which are being successfully grown in the district. The zamindars of the riverain tract seem to prefer these types as little damage is done to them by pigs and other animals.

Barley.

The cultivation of barley closely resembles that of wheat. When not grown for fodder, it is a poor man's crop cultivated by those who cannot afford to plant wheat. In the south of the district a large-eared purple-grained species is grown which is called *indarjau*. This is a different plant from the *indarjau* of Stewart's "Panjab Plants." It is grown as a delicacy, and is chiefly used for parching.

Peas.

Peas are sown on *sailab* land in October and November, where moisture is excessive for the cultivation of wheat. One or two ploughings are considered enough. They are used as fodder, and the green pods are roasted and eaten. When ripe, they are used for *dal*, or ground and made into bread.

Gram.

The gram grown is almost invariably of the kind with pink flowers; a white-flowered variety is reputed to give a larger and sweeter grain, but to be more delicate, and is seldom grown. The crop is either sown broadcast in the rice stubble after a single ploughing or with the drill in *sailab* land. It is a delicate crop, and suffers from insect pests and the effects of drought, hail, frost and excessive rain. It is, when grown after rice, less tolerant of saltpetre than the former

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crop. Normally, it is never given well water. Sometimes mustard is grown with the gram, and the protection thus given improves the yield. It is sown during October. The young leaves are eaten as a vegetable. One or two ploughings are sufficient. Gram ripens in April. The pods are roasted and eaten. Very little is sown on wells and in the Thal on *barani* land.

Turnips.

Turnips are sown to prepare the land for a kharif crop. The seed is sown in September, and the turnips are ripe in January. They are mostly used as fodder, and ripen just in time to relieve the failing stocks of other kinds of fodder. The leaves, stalks and roots are eaten as a vegetable, and the root is cut in pieces and dried for summer use. From the seeds is extracted a bitter oil.

Ussun.

Ussun is a plant of the *Brassica* family, slightly different from the *taramira* of the Punjab (*Brassica eruca* or *Eruca sativa*). It is sown in September. When sown alone or with *mash*, it is intended that the seed shall ripen. When sown with peas or gram, it is intended for fodder. One or two ploughings are sufficient. While green, it is eaten as a vegetable. *Ussun* ripens in March and April. The sheaves are collected on a piece of hard ground and the seed thrashed out with sticks. The oil extracted from the seed is used for burning, anointing and making sweetmeats. In very hot weather *ussun* is mixed with bruised barley, and wetted and given as a cooling food to buffaloes. A plant of *ussun* is like a turnip which has gone to seed. It is a favourite catch-crop throughout the Thal. It is grown on wells to supply oil-cakes for the working cattle in the autumn.

Other Crops of *Brassica* Order.

The other plants of the *Brassica* order cultivated in this district are *arhion* or *ahur* mustard (*Brassica juneca*) (a crop of no importance except in the estates near Multan town where it is a valuable crop); *sarhion*, Punjabi *sarron* (*Brassica campestris*); *sathri*, a plant of the *Brassica* order which is called *sathri* because it ripens in *sath* (sixty) days.

Mohri or *Mauhri.*

Mohri is *Ervum lens*, Punjabi *massar* and *massur*. It is sown in *sailab* land at the end of October. It is sown alone and with barley broadcast and in drills. If both *mohri* and barley are sown broadcast, the *mohri* is sown first and the barley afterwards. If drill-sowing is chosen, *mohri* and barley are sown in alternate furrows. It ripens in April, and is made into *dal*. It is even more delicate than gram, and, in particular, is burnt up by a very slight frost.

Tobacco.

Tobacco is grown mainly on wells, and the sandy soil of the wells on the skirts of the Thal is particularly suited to it. Tobacco grown near Langar Sarai is supposed to be particularly good. On the Powah wells of Leiah, and particularly

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of Kot Sultan, it it is a valuable crop. There are two varieties, of which the coarser, known as *jalandhari*, is planted out at the beginning of March, and the better, but more delicate, called *talai* or *desi*, about a fortnight later. It needs a clean light soil, heavy manuring and frequent, but moderate, waterings from a well. It is sown as an extra rabi crop generally on land cleared of turnips. The leaves, when fully grown, are cut and thrown in sand to dry.

Melons.

Melons are known as *kaddu* when the flower is white, and *painu* when it is yellow, though there seems to be little difference in the fruit. Owing to the difficulty of export, they are grown only for local consumption. They are grown chiefly in the Leiah Tahsil. They are expensive to grow. Sowings are made in early March, and usually cotton is planted among the melons. Heavy manuring, watering and fencing are required.

Area under Crops.

Table 19 in volume B shows the area under each crop for the whole district and the tahsils.

Average Yield.

The average yield of the principal crops is given in the following table:—

Crop.	Yield per acre.	
	Irrigated.	Unirrigated.
Rice	12½ maunds	11½ maunds
Wheat	8¾ ,,	6 ,,
Barley	9 ,,	6½ ,,
Jowar	5¼ ,,	4½ ,,
Bajra	6¼ ,,	4¼ ,,
Gram	5 ,,	5 ,,
Rapeseed	4½ ,,	5 ,,
Sugarcane	14¼ ,,	13½ ,,
Cotton (Cleaned), *Desi*	35 seers	25 seers

Fruits—Mangoes and Dates.

Mangoes and dates are the principal fruit products of the district which are not only largely consumed locally, but are also exported in immense quantities. A full description of date trees and their fruit has been given in chapter I. Orchards are a luxury kept up rather for shade and coolth in the summer than for profit. But round Muzaffargarh town and down the Chenab as far as Alipur mangoes are grown for

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sale, and the fruit farmers, who are mostly Hindus, are extending their plantations. The fruit is brought on light carts or lorries to the railway station where it is sold to middlemen, who are mostly Sikhs from the North Punjab; these export it over all Northern India. The fruit is of many qualities; a few trees have a great reputation, and fruit from them sells for seed at Rs. 10 each; but, since fertilization is not understood and controlled, the young trees do not breed true, and the ordinary Muzaffargarh mango is not of delicate flavour, though it is suspected that many of the so-called Bombay mangoes sold in the Punjab from June onwards are really from Muzaffargarh.

In the Kot Adu Tahsil the orchards are negligible. What there were have been ruined by water-logging or saltpetre, and the trees are dying downwards from the top.

Pomegranates. Pomegranates are grown largely in the gardens. Those raised in the Alipur gardens are the best in the district.

Oranges. The oranges, including Malta oranges, are abundant, and are fairly good.

Apples. *Apples (small)* called *suf* are hard and sour, but are liked.

Other Fruits. The other fruits grown in gardens are limes, pears, grapes, quinces and figs.

A fruit-growers' association has recently been formed through the energy of the Fruit Specialist to Government, Lyallpur, and should be of great benefit.

Vegetables. Turnips are grown on every well and used as vegetables, as well as fodder for bullocks. Besides turnips, the cultivator raises onions and melons on every well if he can, and radishes, cauliflowers, egg-plants, gourds, cucumbers, chillies, aniseed, garlic, *karela* (a small prickly gourd), spinach, cabbages, carrots, fenugreek, spices and coriander are grown on wells adjoining the towns. Round Karor and Leiah vegetables are grown commercially, and are most profitable.

Extension in Cultivation. The total area, including forests, ascertained in 1921-22, was 3,564,257 acres. The total area available for cultivation, but not yet cultivated, consisted of 404,817 acres of Government waste, and 1,958,474 other waste. The total cultivated area was 720,252 acres. These areas are compared with those of previous years, etc., in table 18 of volume B.

Improvements in Agriculture. The Agricultural Department has introduced *wheat*, pure, types 8-A and Pb. 11, *sugarcane*, Coimbatore varieties like 205, 210, etc., and *cotton*, type 4-F, Mollisoni, etc.

The field staff possesses a full set of improved implements and a pair of bullocks, and is required to go out, demonstrate and explain to the people the use of the imple-

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ments and the superiority of pure seed. The number of demonstrations given since 1924, when this work was started in the district, is as follows:—

1924	71
1925	99
1926	140
1927	500
1928	600

As a result of these, a fair number of the implements has been purchased by zamindars, *viz.*:—

1924-25 ... 1 Rajah plough and 3 Meston ploughs.

1925-26 ... 8 Meston ploughs and 1 Rajah fodder-cutter.

1926-27 ... 2 Rajah ploughs, 16 Meston ploughs, 1 Rajah fodder-cutter, 1 rabi drill, 1 kharif drill, 1 bar harrow, 1 Lyallpur hoe, 1 *Munna hal*, etc.

1927-28 ... 1 Rajah fodder-cutter, 1 horse hoe, 7 drills, 47 Meston ploughs, 1 bar harrow, 6 Rajah ploughs, etc.

The seed sold has also increased, though it is difficult to compete with the banias in this district as the zamindars have from ages past relied upon them. A start has, however, been made, and there is a prospect of success. As a result of heavy floods in 1928 and 1929, the rabi prospects were good, and seed taccavi was given in kind, the seed being purchased through the Agricultural Department. Taccavi in kind is increasing in popularity. The district board is also paying attention to this matter; a small start has been made in introducing ploughing competitions and seed exhibitions. These are held at the local fairs, and prizes are awarded.

Agricultural Staff.

The Muzaffargarh District is situated in the South-western Agricultural Division, which has its headquarters at Multan, where there is a Deputy Director. The staff working in the district is under the immediate charge of the Extra Assistant Director of Agriculture, whose headquarters are now at Muzaffargarh. It includes an Agricultural Assistant at Muzaffargarh and an Agricultural Assistant at Alipur. Each of these has a muqaddam. There are also muqaddams at Leiah, and Better-farming Societies at Shianwala and Daphi.

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Communications and Markets.

The communications of the district are bad, and have not been improved much since settlement. The single-line Indus Valley Railway enters the district near Muzaffargarh town, runs west as far as Mahmud Kot in the south-west corner of the Kot Adu Tahsil and from thence turns north through the Kot Adu and Leiah Tahsils, skirting the western edge of the irrigated area. From Mahmud Kot a short branch line runs to the ferry on the Indus at Ghazi Ghat. The metalled road from Multan to Dera Ghazi Khan follows roughly the line of the railway between Muzaffargarh and Ghazi Ghat. From Muzaffargarh town to Alipur town there is a good road which has now been metalled as far as mile 27. From Mahmud Kot northwards the old Indus valley road runs parallel to the railway, but is not very good. The other roads of the district are not in good condition, but are being improved. A railway to run through the Alipur Tahsil and the southern part of the Muzaffargarh Tahsil has been surveyed, and, when built, should be of great service to the country through which it passes; excellent fruit is grown round Alipur town, but there is no efficient means of getting it to market; once the trains are running, this fruit will be exported to the Punjab, and the chain of orchards from Muzaffargarh to Khangarh, which now stops near the latter town, should be extended along the Chenab to the south of the district. There is also a possibility of a railway line from the Jhang District to Muzaffargarh *viâ* Rangpur, which would also be of great benefit, especially as the Haveli Canal Project is to be put in hand.

The only considerable town is Leiah, with about 10,000 inhabitants, but throughout the district at a distance of about 10 miles from each other are small towns usually of 3,000 to 6,000 inhabitants in which dwell the bulk of the Hindus, who arrange for the export of any surplus produce, sometimes by boat, to Sukkur. Some of these are Karor, Kot Sultan, Daira Din Panah, Kot Adu, Muzaffargarh, Khangarh, Kinjhar, Jatoi, Alipur, Khairpur, Sitpur and Shahr Sultan. Karor and Kot Sultan have considerable pilgrim traffic. In the Thal are small villages at Munda, Ladhana, Fatehpur, Chaubara and Nawankot, where Hindu traders collect to purchase the wool of the tract, and open shops to satisfy the simple needs and luxuries of the shepherds. From these markets fairly well-defined tracks radiate to the railway stations, and to the nearer stations in the Jhang colony. Section G of this chapter deals with "Means of Communication," and should also be referred to.

Population engaged in Agriculture, etc.

In 1921 568,478 people were supported by 524,605 acres of matured crops. Table 17 shows that 361,146 persons were engaged in pasture and agriculture, including actual workers

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and their dependants. All classes of residents of the district possess more or less land. An account of the tribes is given in chapter I.

Pressure of Population on Soil.*

As many of the people of the Leiah and Kot Adu Tahsils as find it possible to do so live on the western border of the Thal, the Thalochas, in order to be as near as they can to the railway, shops and comparative coolness of the riverain, and the others so as to be safe from floods. The result is that it is not possible to find out merely from residents whether a man is supported by the riverain or by the Thal, and therefore it is possible to consider in detail only the two southern tahsils. In the north the conditions are rather easier, though there are worse palms and fewer of the best crops than in the south. On the whole, the district has always been very thickly populated, the maximum possible incidence being apparently one person to an acre of crops, including fodders, and the population rising and falling with the acreage of crops. In the Muzaffargarh Tahsil in 1881 the 173,833 acres of crops supported 146,885 persons. By 1901 the acreage had risen to 184,273 and the population to 174,970. This acreage was maintained till 1911 when the population was 187,064. The acreage then began to fall, and in 1921 the population was 187,579. Since then, there has been a series of destructive epidemics of relapsing fever from which 6,000 persons died in 1922, and a good deal of migration to Khanewal, and the population is probably near the acreage, which is 148,867. In Alipur in 1881 crops were 136,649 acres and population 110,741 persons. In 1901 the acreage had risen to 148,192 acres and the population to 150,595 persons. By 1911 the population numbered 146,135, since when, cropping having fallen to 143,457 acres, the population has remained almost stationary, and in 1921 was 146,711. In Alipur there seems to be equilibrium between crops and people; in Muzaffargarh the population increased beyond the food supply, and is falling; in both tahsils the limit seems to have been reached, and the struggle for life is hard. In Kot Adu the approximate figures are 100,000 persons to 104,609 acres of crops, and in Leiah 86,000 persons to 93,788 acres, all of which agree closely with those for the southern tahsils. An estimate of the figures in these tahsils at the time of the first and second settlements is not possible.

Elements of Population.

The total population recorded in the census of 1921 numbered 568,478, of whom 493,369 were Muhammadans, 69,878 Hindus and the balance of 5,231 Sikhs (mostly Labanas), Jains and Christians. A certain number of persons who get their living from the Thal should be excluded from

* See report by Mr. J. D. Anderson, 1927.

the total, though, as explained above, it is not easy to make a proper estimate of these. The 24,469 inhabitants of the Thal *kalan* of Leiah have no connection with the riverain, nor have the majority of the 9,545 persons who live in the *chahi* Thal of Kot Adu; but at least half of the 48,656 recorded dwellers in the *jandi* Thal of Leiah get their livelihood from the flooded land, and only reside in the Thal. Deducting from the census figures 9,265 Hindus and 48,945 Muhammadans, there are 454,424 Muhammadans and 60,613 Hindus who may be assumed to get their living from the agricultural part of the district. Of these, 24,019 are residents of five small towns, of which the largest is Leiah (8,476) and the second is Muzaffargarh (5,386); none of the other three has more than 4,000 inhabitants. Apart from the few Government servants, these people depend on the land for their livelihood as much as does anyone else.

The population contains five main elements—

(*a*) The Hindus who live in small market towns built at a distance of about 10 miles from one another on sites so secure from floods that grain can be stored in them. Most of the land round these towns is, and long has been, owned by the Hindus, who are by far the best farmers in the district, and grow all the most valuable crops. They never cultivate with their own hands, but are assiduous in directing their Muhammadan labourers. Their livelihood is, however, derived from their shops, and still more from their banking, which will be described later. They are a literate community (27·7 per cent. among males) and, in comparison with the Muhammadans, are progressive, but socially are a despised minority, though feared for the power which their wealth gives them;

(*b*) Much of the land, which at a guess may be put at half the cultivation of the district, is held by Muhammadans in such large estates that the owners never touch the plough themselves, but cultivate through labourers or tenants. Some of their home farms (classified in the revenue papers as *khud-kasht*) are well run, but, on the whole, they are bad landlords, interested more in intrigue of all kinds than in scientific farming; most of them are in debt, some very heavily, through extravagance and mismanagement, but no sympathy need be wasted over them;

(*c*) The other half of the Muhammadans' land is owned by a great number of people holding from

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20 acres each to a small fraction of an acre. Of these, a number should be in the same position as the peasant proprietors of the Northern Punjab, though, in practice, they are not. It is the rarest thing to find a man cultivating his own land with his own hands and maintaining his family from the produce. For this, one reason is the attitude of the squires, who desire a subservient tenantry, and not a class of independent yeomen. So, unless the small owner takes protection by becoming a tenant, he will have his cattle and women driven off. Another reason is the minute fragmentation of the holdings. Partitions are rare, and the shares in the small wells, which are normal in the district, have in the course of time become so complicated that they are neglected in agriculture. A case has been met with where a man's 14 acres were divided over 22 wells. He had one holding of $3\frac{1}{4}$ acres, which was a third of the well, but all the rest were such fractions as $4/34 \times \frac{1}{2} \times 76/428 \times 12\frac{1}{2}$ acres. He had two or three of such shares in each well, each held with a different group of co-sharers. All these small shares had been mortgaged, and with the proceeds he had bought cattle and taken up a tenancy of 8 acres. Indeed the chief function of such land is to provide security for a loan, which it usually does without the formality of a mortgage. A well which contains such minute shares is, in practice, cultivated by the owners with the largest shares; the owners with the smallest fractions, too small to be of use as credit, have to go away as labourers under the Hindu and Muhammadan squires. It is not worth their while to return at harvest to try to recover their theoretical dues, though they often leave their dependants on the well, where they get some of the produce for helping in the cultivation. Consolidation of holdings would be resisted by the people, and must of necessity fail partly because of the complication of the shares, but chiefly because the usual criteria of partition are lacking. It is not really land which is to be divided, but credit and an incalculable water-supply;

(*d*) In the next class are the men who have lost their land, or hold so little that they can get no credit, cannot buy cattle, and so cannot take up a tenancy. They are compelled to work as labourers on the *khud-kasht* land of the Hindus and richer Muhammadans;

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(e) Last of all are the menials, skilled workmen, who, after the Hindus, are the most prosperous people in the district, since, whatever the harvest may be, the farmer must employ and pay the carpenters and potters.

Characteristics of Muhammadans.

Of these four classes of Muhammadans, the last usually live in small groups often on the outskirts of the Hindu towns. The squires have their mansion-houses in their estates, while the men who actually cultivate the land live scattered over the countryside each near his place of work. Except where the excessive floods have driven the cultivators of some localities to build their houses on a sand-hill, the compact "*abadi deh*" of the Punjab is not found in the district, nor unfortunately is there any corporate spirit. The "village" is a unit only for the payment of land revenue, and men may be neighbours, and yet have no sympathy one with another unless they hold under the same landlord or worship the same saint.

The whole Muhammadan community is as yet very badly educated. The percentage of literates in 1924 was among males 1·9 and among females 0·2. Education is now being extended by the rapid opening of new schools, and 9,775 boys of agricultural tribes (or about 1/10th of those of school-going age) are enrolled as pupils, though only 378 are reading in the high schools. Probably the richer classes are more literate than the figures show since many families send their sons to be educated in Multan and Bahawalpur; but among the poor there is little education, and less desire for it. Primary education is supposed, and with the present standard of teachers there is justification for the belief, to take the boy away when he should be learning to follow the plough, and to send him back a spoilt zamindar and a bad Babu. The problem of educating the masses is more complicated in Muzaffargarh than in the Punjab by the difficulty of getting the boys of agricultural tribes beyond the primary school. It is easy enough to open schools in the townships for Hindus and menials, but education cannot be brought to the scattered wells, and the ordinary man has not the means, even if he has the wish, to send his sons to a boarding-school. As would be expected from the low standard of literacy, the number of Muhammadans in the service of Government is very small.*

Education Generally.

Education is a monopoly of the rich, of the Hindus and of the menials. The mental development of the ordinary boy is precocious, but is arrested once he reaches the age of sexual maturity, that is to say, 14 at the latest, so that any training, practical or theoretical, which he is to receive has

*Education has expanded very much recently—see under that heading.

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to be given between the ages of 6 and 14. The cultivator's store of wisdom about cattle, crops, seasons and inundation canals can be communicated to the learner only by practice. As a teacher by precept, the villager is a failure, as, though he sees results, he can seldom explain causes. This teaching of results without reasons is slow, and the son of the cultivator cannot be spared at the most receptive time of his life to learn the three "R's," and a spirit of dissatisfaction with his lot which is the mental pabulum provided at the village school. The Hindu has eagerly accepted education which is helpful to his hereditary calling of accounts, while the specialized trades of the menials both allow of more leisure than the cultivator can enjoy, and, being still regarded as servile, furnish an incentive for the young potter or weaver to abandon his father's profession and advance his social position. This he can do only by taking public or private service, and the key to service is education.

Alienations.

The table below, taken from the recent settlement report, shows the sales and mortgages:—

Tahsil.	SALES.	MORTGAGES.			
		Cultivated area mortgaged at settlement.		*Cultivated area mortgaged now.*	
	Percentage of cultivated area sold.	Total cultivated.	Percentage of whole.	Total cultivated.	Percentage of whole.
Leiah	28	32,266	19	24,889	14
Kot Adu ..	20	20,398	15	21,805	15
Muzaffargarh ..	20	36,742	19	33,037	17
Alipur	15	19,889	12	24,330	12

Since settlement, as is shown by the above table, about 1 per cent. of the total cultivated area has changed hands yearly by sales. In Leiah the figure is swollen by the sales to speculators, who have bought up large stretches of waste at from 4 annas to Re. 1 an acre in the hope that perennial irrigation will sooner or later be brought to the Thal. This sale has extinguished much mortgage. In the three southern tahsils mortgage is very much what it was at last settlement; generally speaking, the land of the Hindus and of the large landowners is free from encumbrance, while most of the land of the small holders has been mortgaged to finance them

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as tenants. The Punjab Alienation of Land Act has had little, if any, effect on mortgages in Muzaffargarh. This is due to the absence of the yeoman class, the uncertain water-supply and crops and the necessity for easy credit. The big Muhammadan landlords speak of the Act as their economic salvation, and probably it has to some extent protected them from the result of their own extravagance and made it easier for them to swallow up their smaller neighbours. On the whole, however, the Act is not, in the Settlement Officer's opinion, to the advantage of the district. The uneconomic holding is no longer squeezed out of existence, and it is worth noting that, though the population has not largely increased and the cultivated area has risen only from 682,025 acres to 724,258 acres, field numbers have nearly doubled since last settlement from 871,033 to 1,587,785. Before the Act the Hindu bankers were continually foreclosing, but they seldom kept the land since few have any ambition to become joint holders in a village too far from their homes for them to control cultivation; now the uneconomic holding persists, with its evils of inefficient tillage and fragmentation. The spirit of the Act is frequently evaded by the creditor persuading some other agriculturist to take over a hopelessly encumbered holding which the owner is bullied or bribed to vacate. The evil of this practice is that, whereas, if the land were sold in the open market, it would fetch the market price only, it now passes to the new owner encumbered with the whole amount of the old debt, including compound interest, and the new owner starts with an overcapitalized property. When, as occasionally happens, a non-agriculturist covets an agriculturist's land, the Act has few terrors for him; all that is necessary is that the vendee whom the banker puts forward should own other land; after mutation has been given in the vendee's favour the next step is to wait for a suitable opportunity; a report is then submitted to the Deputy Commissioner that the vendee owns so many acres and asks for permission to sell so many (*i.e.*, the area he has just bought) in order that he may pay off his debt (*i.e.*, the encumbrance placed upon the land by the vendor, the sum being swollen by compound interest); owing to the poverty of the neighbouring agriculturists, the only person who can afford to give this splendid price is the banker who is pulling the strings, and recommendation is made that permission should be given to the vendee to sell to him. The transaction set forth without any commentary seems an excellent piece of business for the vendee, and is usually sanctioned. The repeal of the Act in the district is not practicable, but the Settlement Officer was unable to find that it is of advantage to the district as a whole, while its constant evasion undoubtedly lowers the prestige of the administration while affording the subordinate revenue establishment plentiful opportunities of corruption.

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Value of Land.

The table below shows the mortgage value and sale price per acre :—

Tahsil.	Years.	PER ACRE CULTIVATED.	
		Sale price.	Mortgage value.
		Rs.	Rs.
Leiah ..	1900-01, 1903-04	35	18
	1913-14, 1915-16, 1919-20 ..	78	49
Kot Adu ..	1900-01, 1903-04	52	34
	1913-14, 1915-16, 1919-20 ..	131	121
Muzaffargarh	1900-01, 1903-04	111	70
	1913-14, 1915-16, 1919-20 ..	223	110
Alipur ..	1900-01, 1903-04	98	73
	1913-14, 1915-16, 1919-20 ..	198	102

The value of land has certainly increased largely since settlement, though, owing to the effect of the Punjab Alienation of Land Act, it is difficult to make an accurate estimate of the increase; before the passing of the Act land was transferred at its market price, whereas now, in nine cases out of ten, it changes hands at the paper value of the vendor's debt to his money-lender. The value of land varies with its situation and water-supply; *sailab* land on the Indus sells for a few rupees an acre, while the market gardening land on the outskirts of the towns is worth not less than Rs. 2,000 an acre.

Indebtedness of Landowners.

Table 21 of part B gives further figures under this heading.

Mr. O'Brien's remarks on this subject printed in an old Gazetteer are reproduced below as they deal with a state of affairs which still exists in many respects. After remarking that the farming in the district is very bad, Mr. O'Brien proceeds—

"The agriculturists are very extravagant. They spend "sums beyond their means at marriages, betrothals, circum- "cisions and funerals. They pay constant visits to shrines "and places of pilgrimage, and make offerings there which "they cannot afford. This part of the Punjab is overrun by

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"religious impostors of different kinds, and the agriculturists "make them presents out of all proportion to their incomes, "and vie with one another in the largeness of their gifts. "Persons who cannot afford to do so keep saddle horses. "Large sums are spent in womanizing, lawful and unlawful.

"One great cause of debt is debt. The crops have "generally been forestalled. When they are harvested, the "creditors carry off the whole, and the agriculturist has to "begin again borrowing for his daily wants, and he borrows "under very disadvantageous circumstances.

"It is not bad farming or extravagance alone, so much "as improvidence, that makes the agriculturists indebted. "It is contrary to their habits to keep ready money by them. "If a man makes a few hundred rupees more than his ex-"penses, he will not keep any part of it for a bad year. He "at once buys more land or more bullocks, or ornaments "or a wife. He will do anything rather than keep the "cash. If then there is a bad harvest next year, he must "*go to* the money-lender. No agriculturist ever has a "balance to the good with his banker. Every one works "with a balance to the bad, and trusts to the harvest to put "him right."

Apart from the faults in the character of the people. the chief cause of indebtedness is the present method of financing agriculture, which is described below.*

How Agriculture is financed—Exchange.

Money seldom changes hand in Muzaffargarh, where ordinarily transactions are by barter, and the only payments normally made in cash are of Government revenue and to the Mianwali drovers who import cattle into the district.

Banking.

The generality of the farmers lives in places exposed to flood; so, where it is not possible to store grain, as far back as the memory of man can reach, the practice has been for the growers to bank all their grain in the granaries of the Hindu residents of the towns. Probably in the distant past while society was tribal the Hindus were accountants only, as they still are in some of the Biloch Tumans, but in the course of time, as the clans have scattered, and as the need for credit has increased with the increase of population on the inundation canals, they have become bankers. The business procedure of their banks is at first sight very complicated; but, when it is rid of its peculiar terminology, it is not very difficult, and is on the following lines. So soon as the harvest is threshed, payment is made on the threshing-floor to the menials, labourers, etc. The balance is divided

* Mr. Anderson's report of 1927.

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between the owner and the tenant, who alike at once take it to their bankers, and get it credited to their accounts. Against this credit they draw when they require food or seed, though not to the full amount of the grain which has been paid in. It is obvious that the banker is entitled to deduct his expenses, and also a fair profit, from his clients. It also happens that in a bad harvest their needs exceed the amount of grain paid by them into the bank and he has to import grain, buying it at more than the harvest price. So, for every maund of wheat paid in, only 30, 25 or 20 seers are paid out, at a rate fixed each harvest by the banker, who is guided by such considerations as the price at harvest, the goodness or badness of the harvest and the probable future trend of prices. Any cash loans and purchases from the banker's shop taken by the client are kept in a separate account, which is, however, liquidated from any surplus in the grain account.

Faults and Merits of System.

It is common to hear vehement abuse of this system on the ground that the farmer is by it handed over to the rapacity of the money-lender. This is partly true, but the proof of the pudding is the eating; and the fact remains that the system has kept most of the holdings of the district under the plough, even though the standard of cultivation is not as high as it should be. At the same time, few of the money-lenders have made their fortunes, which they should all have done had they been all they are supposed to be. It is, however, probable that the system has outlived its day, that it is retarding the development of the district and that it should be replaced. Before dealing with these matters the greatest merit of these banks should be stated: it is the elasticity of the credit given. The Hindu money-lender's experience and local knowledge are such that he can take apparent risks and lend to holdings which no other bank would finance. In view of the most uncertain crops of Muzaffargarh, this is a very great merit.

On the other hand, there is no doubt that the system now works far less than it did 50 years ago. So long as there were no railways, the district was self-supporting and the local bankers could fix their own prices. Now even Muzaffargarh has been brought into the world-markets, and, though the banker is on the whole fairly sagacious, he has no means of estimating the effect of 2 inches of rain in Manitoba on the price of wheat in India three months hence.

As a result, particularly in the year after the war, when prices have been incalculable, the banking community have themselves suffered great losses, and, since the only way in which they can protect their interests is by raising their

rates, the farmers now get less easy terms than they did a generation back. This financial system is not peculiar to Muzaffargarh, but is also found in the neighbouring districts of Multan, Dera Ghazi Khan and Jhang wherever there are inundation canals, a Muhammadan peasantry, Hindu bankers and a scanty rainfall. In all these districts it is accompanied by a very heavy percentage of land mortgaged to non-agriculturists and by an enormous floating debt. The former, which in Muzaffargarh is 9·9 per cent. of the total cultivated area, the highest in the province, and three times the provincial average, is due to the method by which the banks close their accounts. Normally, the banker does not put his clients into court since litigation is expensive, infructuous and a bad advertisement for the bank; if he feels that his client is not doing his best, he brings him to order with the threat of withholding credit, and goes on financing the holding so long as there is no material change in its productivity. If the well falls in, or the canal supply fails, so that the holding goes out of cultivation, the banker has to put up with his losses. It is useless to go into court as the debtor's one asset has disappeared. If, however, the potential value of the holding is unchanged, but its management passes to a widow or infant, so that it is certain that for a term of years the property will be wasted, the banker cuts his losses, and gets a decree and a mortgage against the holding. During the last two years of the recent settlement the Settlement Officer scrutinized all execution proceedings sent to him by civil courts and found that half were against widows and infants: the others were probably against wastrels.

The unsecured debt of Muzaffargarh is enormous and ancient. At the first regular settlement during the eighties of last century Mr. O'Brien found that he could count on his fingers the farmers who were free from debt. At the second settlement things were no better, nor have they improved since. What the total of the debt is no one can say, but it is agreed by all who have enquired into it that it bears no relation to the land revenue of the debtors, the mortgaged value of their land or indeed to their total assets. The origin and growth of their debt are both due to the insecure crops. Did the farmer's account with the bank balance at each harvest, there would be no debt; but, even if over a term of years the incomings and outgoings of grain are equal, the farmer will always be in debt since he is debited with compound interest on any overdraft from the previous year, while he is credited with no interest on deposits. Two bad years in succession result, as a rule, in a burden of debt from which the farmer can never escape. It is true that the debt is a paper one which the creditor never hopes to recover

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in existing conditions; in fact, the banker has really two accounts: one of the actual transactions mostly in grain on which normally he makes a considerable profit, and the paper one showing very large advances on which payments either for capital or for interest are very trifling. The function of this second account is to increase his power of squeezing the debtor and to prevent him from turning to a rival money-lender; these overgrown accounts are also useful when it becomes necessary to get a decree against a holding and to show in income-tax returns.

This debt is bad for agriculture, since, though the ordinary cultivator's land is safe from his creditor, his produce is not. When a good crop is paid into the bank, the banker takes it all as part payment of interest already due, and the producer gets no more than a subsistence allowance. If the farmer dared to rebel, and sell his produce to some other dealer, he would be refused credit by his banker at the next bad harvest and would have to throw up his holding, since, so long as the old debt is unpaid, no other banker is going to give him credit. The farmer has thus no money to spend on improving his land, nor has he any incentive to work harder than will just satisfy his creditor, since it is the latter who gets the fruits of his labour. On the other hand, the banker who finances the holding, and gets the profit from it, has not the security of ownership, and has to work the holding through a sulky owner. So, though he is interested in keeping the holding in cultivation, he will not advance money for improvements. All over the district the contrast between the wells owned by Hindus and those financed by them is very marked. On the former, are found good bullocks, decent brick buildings, fruit trees and such intensive crops as cane, pepper and vegetables; on the latter, half-starved, worn-out cattle, mud huts and no better crops than indifferent wheat.

It is not fair to put the whole blame for this contrast on the banker, who is responsible for neither the rainfall nor the flood, though he takes advantage of the conditions caused by them. But it is clear that this debt is a drag on progress, and that, if possible, it should be ended. To do so will not be easy, seeing that it is the gradual growth of at least seventy years.

The natural condition of Muzaffargarh may be summarized as an uneducated population pressing heavily on crops, of which more than half are insecure. Out of these natural conditions has grown a system of finance which prevents the full development of the land. The result is "a stagnancy, a torpor and confused horror to the human soul."

The figures given below, which are based on the official enquiry into mortgage debt, show the position thus:—

Total Debt (Proprietors and Occupancy Tenants only).

District.	Amount of Debt.			
	In lakhs.	As a multiple of the land revenue.	Per cultivated acre.	Per head of the rural population.
	Rs.		Rs.	Rs.
Muzaffargarh ..	191	22	26	35

Mr. Anderson's enquiries into the extent of debt in the Alipur Tahsil give the following results:—

(*a*) proprietors' debt is twenty-three times the land revenue, or almost exactly the same multiple as that given above for the whole district ;

(*b*) mortgage debt is only 36 per cent. of the whole ;

(*c*) 32 per cent. of the owners are not in debt, but they are mostly Hindus, who throughout the tract are little in debt. The proportion for tenants is 29 per cent., representing, the Settlement Officer says, those who cannot borrow for want of credit.

In the Kot Adu Tahsil the debt is estimated at four times the land revenue. "In the nineties," says Mr. Darling, "a careful enquiry was made into the economic conditions of what is now called the Kot Adu Tahsil. It was calculated that a man with a wife and two children required a minimum of from 13 to 40 acres of cropped area to live on, according to where he lived. Forty acres, for instance, were required in the semi-desert Thal. Then it was found, though about 40 per cent. of the cultivated area was in the hands of owners of over 50 acres, 87 per cent. of the owners cultivated less than 10 acres and 68 per cent. between 1 and 5. The Settlement Officer, an Indian intimately acquainted with the people, reckoned that 92 per cent. of the owners in the tahsil could not make both ends meet." Mr. Anderson estimated that only those who pay Rs. 25 or more of land revenue can maintain their families in any measure of decency and comfort, and his investigations show that in three out of four tahsils of the district not more than 4 per cent. are in this position.

In the Thal.

The shepherds of the Thal resemble the small holders of the *pakka* in all except their poverty. Thal land has little value as security, and flocks have none, so they are free from

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debt, and, as a matter of fact, thanks to the war, are in general very prosperous. These small holders practically never take up service under Government or under private persons.

Co-operation in District.

Till the year 1915 there was no co-operative credit society in the district (excluding two very old societies of Marhanwali and Rangshah, transferred from the Mianwali District). It was in that year that one was registered at Thatta Gurmani in the Kot Adu Tahsil, and in February 1916 a temporary inspector was appointed to promote co-operative credit societies in the district where the relations between the zamindars and the money-lenders had become somewhat strained. Fourteen societies were started during that year, and a central co-operative bank at the district headquarters was registered on the 27th April 1916 to finance the movement. This has paid no dividend for some years as it has not realized its profits from many of the societies which are in a bad condition. The movement attracted the special sympathy of the district officers, and with their help the number of societies in the district reached 153 by the end of the co-operative year 1921. It was noticed that the societies had made no satisfactory beginning due to the weak character of the people in general and their lack of initiative. Until recently therefore no further expansion was made, and the Registrar, in his annual report for the year 1924, remarked as follows: "Muzaffargarh seems beyond the pale of the co-operative influence. The people lack the character on which to build; the moral outlook is beyond description and the capacity of sustained effort at self-improvement seems to be non-existent." The district was kept under special observation, and Mr. Strickland, the then Registrar, in his annual report for the year 1926, wrote that "unless the excess load is lifted nothing can be done; and the creditor will lose less by a fair compromise than by a swollen claim which merely discourages the debtor." In reviewing that report, the Punjab Government, Ministry of Agriculture, remarked that "Government would be interested in the liquidation of these debts by arbitration as an experimental measure, supported by long-term loans from mortgage banks." During the next year's annual report Mr. Strickland observed that "until special measures are adopted by legislative or other authority little can be done here by co-operation." His successor, Mr. Darling, in his annual report was optimistic in this respect, and wrote that "it is a question whether co-operation by itself can succeed in materially alleviating their very depressed condition. The attempt is, however, being made, and everything possible is being done to make it a success. A larger and a better staff is being employed; the mistakes made in the past are being avoided; new societies are only started after very careful teaching, and in the early stages supervision is close and constant. The result

is a more promising outlook than we had ever before.".

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There are now 228 co-operative societies in the district, with a membership of over 5,000. Of these, 203 are societies of credit; these also include 50 grain societies, which have proved of immense benefit to the people of the riverain tract of the Indus. Repayments in them are quite satisfactory. It has been found that village economy in the district is chiefly in kind, and cash is seldom handled by the rural folk ; so, instead of credit societies, grain societies are becoming more popular. The first grain society was started in village Khokhar (Kot Adu Tahsil) in March 1925. Payments are received in grain. Societies which are considered beyond improvement are being weeded out. At present 33 per cent. of the societies in the district are classed as "D," that is, which are considered to be on the verge of liquidation. Everything possible is being done to improve them.

A scheme has been prepared for starting experimentally a mortgage bank combined with an arbitration society in a small area consisting of the three zails of Karor, Marhanwali and Wara Sehran in the Leiah Tahsil. Settlement of claims between creditors and debtors will be taken up by the panchayat of the society, and, in case of money, the mortgage bank will help the debtor in the liquidation of his debts. Besides this, the mortgage bank will help in the redemption of land, and will also advance money for the improvement of land. If the scheme succeeds, there is a likelihood of the setting up of a chain of such small mortgage banks, combined with arbitration societies, in the district.

Staff.

The co-operative staff has of recent years been strengthened, and there is now one Assistant Registrar who holds charge of the two districts of Muzaffargarh and Dera Ghazi Khan, with headquarters at Muzaffargarh. There are 3 inspectors and 1 honorary inspector, 2 auditors and 7 sub-inspectors. There has also recently been appointed a sub-inspector for co-operative industrial societies.

Working of the Land Improvement and Agriculturists Loans Acts.

Much attention has been paid in recent years towards meeting the needs of poor agriculturists under the Agriculturists Loans Act and fairly large amounts have been advanced under the Land Improvements Loans Act. In former years the advances made under the Acts were generally small, and the agriculturists found it easy and convenient to borrow from the village money-lender. Restriction of credit owing to the passing of the Alienation of Land Act obliges them to look to Government for help, and an attempt is being made to meet their requirements. The amounts advanced every year under each Act are noted in table 20 of volume B.

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Taccavi loans averaged Rs. 66,960 in the years 1906 to 1911, have steadily increased and have been Rs. 1,16,900 in 1921-22, Rs. 75,724 in 1922-23, Rs. 1,31,240 in 1923-24, Rs. 3,50,470 in 1924-25 and more in 1929-30. The last two years were abnormal on account of floods. The objection to taccavi is that, so long as the district is financed through the Hindus' grain banks, it is the latter who benefit from it. Even when, as often happens, the loan is not borrowed at the instigation of the banker, who wants cash on easy terms, it is almost always taken to pay to a pressing creditor in the hope of keeping him quiet till next harvest. In practice, it is impossible to check this; the application for the loan states that it is for the purpose of buying bullocks. If the tahsildar goes on the spot to find out what has happened to the money, he is either told that the new bullocks have died or been stolen, or else finding bullocks there he has no means of telling whether they have been bought with the loan, or indeed whether they belong to the person who claims them. Were Government to increase the annual amount given in loans to such a sum as would meet the requirements of agriculture in the district, the farmer would not benefit so long as he is under the burden of the present debt. Until there is some scheme for taking up the whole indebtedness, the less interference there is with the finance of the people the better; and taccavi should be given most sparingly, except in seasons of calamity, such as 1924 and 1929, when, so far as possible, it should be in grain. Taccavi for wells is, however, properly used in most cases, though here also care is required, and inspections by tahsil officers should be insisted on.

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Agricultural Stock.

The table below, taken from the recent settlement report, shows the agricultural stock at last settlement and in the year 1922-23:—

Year.	Tahsil.	Bullocks and oxen.	Cows.	Buffaloes.	Cow buffaloes.	Young stock.	Total agricultural stock.	Sheep and goats.	Camels.	REMARKS.
At 1903-04 Settlement.	Leiah ..	39,162	20,677	564	5,871	16,776	83,050	231,690	22,893	Including Thal.
		11,040	4,715	93	853	3,520	20,221	169,901	22,158	Thal.
	Kot Adu ..	35,674	27,372	317	6,300	17,465	87,128	100,249	5,075	Including Thal.
		2,181	430	..	..	226	2,837	41,036	3,680	Thal.
	Muzaffargarh	61,439	55,992	2,129	12,882	48,015	180,457	110,457	2,844	
	Alipur ..	43,972	42,830	800	15,186	25,384	128,172	86,279	898	
	Total ..	180,247	146,871	3,810	40,239	107,640	478,807	528,675	31,710	
1919-20.	Leiah ..	43,141	25,168	253	6,167	26,396	101,125	221,719	9,660	Including Thal.
		15,717	9,055	82	977	8,145	33,976	186,020	8,950	Thal.
	Kot Adu ..	37,432	29,[illegible]04	245	8,591	27,938	103,510	116,146	3,003	Including Thal.
		2,948	1,668	1	10	1,070	5,697	56,173	1,686	Thal.
	Muzaffargarh	51,771	41,503	1,184	13,082	45,189	152,729	88,593	1,903	
	Alipur ..	46,422	41,981	636	15,168	42,362	146,569	73,952	649	
	Total ..	178,766	137,956	2,318	43,008	141,885	503,933	500,410	15,215	
1922-23.	Leiah ..	43,717	24,718	277	5,85	22,198	96,760	236,436	13,070	Including Thal.
		14,077	7,987	73	825	7,143	30,105	193,101	12,196	Thal.
	Kot Adu ..	39,206	28,296	391	7,573	25,444	100,910	116,277	3,322	Including Thal.
		2,706	824	4	9	578	4,121	64,768	1,386	Thal.
	Muzaffargarh	50,885	42,073	934	12,345	39,025	145,262	98,188	1,723	
	Alipur ..	46,702	40,424	682	14,021	34,264	136,093	73,076	984	
	Total ..	180,510	135,511	2,284	39,789	120,931	479,025	523,977	19,099	

Table 22 of part B contains further particulars.

Particularly in the Leiah and Kot Ȧdu Tahsils, where the flocks wander for grazing over large areas, and the shepherds, though knowing their beasts by name, are unable to count beyond five, and so can give no estimate of their

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charges, the figures have to be treated with some reserve. Along the Indus there are still wide waste areas in which throughout the summer there is excellent grazing, but the district is a bad one for stock on account of the dry months April to June, during which the grazing is all burnt up and there is no fodder ; though considerable herds are kept everywhere, except on the Thal, where there is at all times no grazing for cattle, the locally bred animals are of poor stamp, and the bullocks are of little use even for the shallow wells and light soils of the district. Except those of the poorest owners, all the working cattle are imported from the Biloch hills, Sindh or Bahawalpur; and, since their life is not more than eight years, their replacement is a continual drain on the resources of the farmers, particularly when wells are increased to balance a falling supply of flood water.

In considering the figures for the tahsils, it must be borne in mind that there has been a change in classification since 1903-04, and that many beasts which are now classified as young stock would then have been shown as mature. At last settlement the Leiah Thal was in a very bad state as a result of a series of bad seasons aggravated by an unsuitable form of assessment. It is now, in its own way, probably the most prosperous part of the district; and, though the riverain is weaker than it then was, the tahsil as a whole has greatly improved; this improvement is reflected in the increase in the head of horned stock; it is difficult to account for the large decrease in the number of camels; it may, in part, be due to a mistake in counting since during the winter months the camels of the powindahs graze slowly down the Thal from north to south and back again, and it is not easy to exclude them all from account, the Thal being vast and the number of counters few and unable to visit every well; it is, however, probable that there has really been a large decrease in camels, since, during the great war and the troubles on the frontier which followed it, the breeders on the Thal sold every camel they could to the army at large prices, and probably reduced the head of their breeding stock. At the same time, there was an enormous demand for sheep and goats, and this is probably reflected in the small increase in their recorded number. The Kot Adu Thal has shared the prosperity of Leiah, while the canal-irrigated area has also improved, so that the cause of the increase of stock of all kinds in this tahsil is obvious. In the Muzaffargarh Tahsil the decline in all kinds of stock since settlement is an indication of the deterioration in the tahsil caused by the bad supply from the canals of both rivers since about 1915. In Alipur the decrease in sheep and goats is explained by the increase in cultivation on the southern canals, which, in turn, explains the moderate increase in horned cattle.

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Except from the Thal, there is no export of agricultural stock or of dairy produce. The Thal sheep are a fine breed. The goats of the Thal and of the Daira Din Panah and Kinjhar *ilakas* are good milkers. Goats are sometimes imported from across the Indus for breeding purposes. No merino sheep have yet been introduced. The working cattle are fed on turnips during January and February, in March and April on green barley and wheat mixed with wheat straw, or, where it is available, on peas, then on straw alone till *jowar* is available in late May and June; from June to November they get a certain amount of *jowar* and *bajra* in addition to straw, but from November till the turnips are ready nothing but straw, helped out with a little oil-cake or cotton-seed. They are then at their worst; consequently, the plough cattle are in the early winter reduced to extreme misery. Even in the Thal *Kalan* camels, though employed to turn the oil-presses, are never used in ploughing or on the wells.

Grazing in the Thal.

Except the western edge of the *Jandi*, the Thal is entirely pastoral, and its wild plants are more important than its crops. A very full account of them is found in the first chapter of Mr. (now Sir Malcolm) Hailey's settlement report. A brief sketch of only those which are of economic importance to the tract will suffice here.*

The flora of the Thal may be divided into drought-resisting shrubs which survive through the hottest summers and are of value as providing the only certain fodder, and smaller herbs which spring up and die down with great rapidity after rain. The former vary with the depth of the sub-soil water and grow in well-marked areas ; the latter are universal. Beginning from the west, the first fodder area is a triangle of *sar* grass (Saccharum sara) or *munjkana*, with its apex at Karor and its base about five miles wide on the southern border of the tahsil. Sheep and goats will not eat *sar*, but it is a poor food for cattle, and whenever it is found there are small herds. Its real use is for the manufacture of ropes and nets, and the villages which are lucky enough to have any do a trade in these articles to the eastern Thal and Multan. Mixed with the *sar*, and extending a couple of miles to the east of it, is found the *jand* (Prosopis spicigera), the only wild tree of the Thal. When sacred to a saint or when shading a pond, it is not lopped, and grows into a tall and shapely, but from its pendent habit of growth, rather melancholy, tree; usually, however, every branch is cut from it during the winter to provide fodder for goats, and the pollarded trees are stunted and distorted. It is not eaten by cattle or sheep. The fallen leaves and twigs turn into mould, and the soil is removed from near the trunk and thrown over the fields.

* See also chapter I-A.

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Overlapping the *jands*, but extending beyond them 3 miles to the east, are found two leafless scrubs, *phog* (Kalligonum polygonoides) and *kari* (Capparis aphylla). The shoots of both of these bushes, though poor fodder, are nibbled by sheep. On the eastern border of the Thal near Khairewala is a second strip of *phog*, and between these two strips is a broad belt of *lana* running diagonally across the tahsil. *Lana* (Haloxylon salicornicum multiflorum) is a short, stocky scrub, the winter browsing of camels, and eaten also by sheep, which, however, cannot long keep condition on it alone. On the southern and eastern borders of the tahsil are a few *jal* trees (Salvadora oleoides) which are the summer browsing of camels, but the scarcity of *jal* is one of the weaknesses of the tahsil, and accounts in part for the inferiority of the local camel, which is a poor beast compared either with those of Muzaffargarh and Kot Adu or with the powindahs' herds. In spite of the great area of the Thal, indigenous camels are not very numerous, and camel-breeding is carried on only south of Chaubara, whence access to Kot Adu or Jhang, where *jal* is abundant, is comparatively easy.

Of the herbs by far the most important is *chembhar* (Eleusine flagellifera), a creeping plant which propagates itself by runners, and gives the best grazing for sheep. If rain falls in March and September, the *chembhar* springs up with great rapidity, the flocks grow fat and the lambing seasons are good. If there is no *chembhar*, the ewes are weak, lambs are few and the flocks have little power of resisting sickness. In fact, the numbers of sheep rise and fall with the growth of the *chembhar;* and, since the state of the wells depends on the manure from the flocks, ultimately cultivation also is dependent on this plant. The commonest of the other herbs are *bui* (Panderia pilosa), *kip* and *bhurla*, broom-like plants, and *kawi*, a spear-grass found on abandoned wells and much eaten by deer. All these are, when green, grazed by the sheep; but, since they are green only when the *chembhar* also is sprouting, they are of little real use, except for making hedges. A new-comer to the Thal is a small annual known as the *haladri buti;* this seems to have spread from Multan through the Kot Adu Thal up the sterile central strip. It bears a very bad name, and is said to drive out the *chembhar*, but this is an exaggeration; and, in reality, the *haladri buti* grows only in soil which is too poor to produce good *chembhar*. Wherever it is now found, the Settlement Officer at the previous settlement noted that the *chembhar* was very bad.

The *jand* has been described as the only wild tree of the Thal. On the eastern wells tamarisks are planted in small

groves to provide timber for the well-gear. They are grown from suckers in manured land and get water for the first three years, but are stunted by the heat and violent winds; three species are recognized, of which the *nodi* or knotted, is preferred for its strength and convenient shape. The straight-grown, or *kabuli*, is the least esteemed. Towards the west *ber* (Sisyphus jujuba), *shisham* (Dalbergia sissoo), *kikar* (Acacia arabica), and even a few *pipal* (Ficus religioso) and *sawanjana* are grown, and along the high bank there are occasional mangoes. Date-palms are planted on almost every well, but nowhere produce fruit, and only in the extreme west grow to any size. The leaves are used for making ropes.

In the cultivated lands the wild leek, *bukhal*, is the commonest weed, and wild heliotrope and dwarf convolvulus are also found. But, on the whole, the fields are very clean and free from weeds.

Generally the Kot Adu Thal resembles the Thal of Leiah, though, except the eastern sand-hills, everything in Kot Adu is on a smaller scale.

On the other hand, though it is far less attractive in every way, the Kot Adu Thal has some very solid advantages over Leiah. Chief among these is the close proximity of the *jal*- and *lana*-growing areas which makes the circle a camel's paradise; camels can remain on the Kot Adu Thal all the year round, and the locally-bred beast is as superior to his brother from Leiah as his owner is inferior to the latter's. Secondly, though the grazing for sheep is worse than in the northern tahsil, the Kot Adu grazier has a very accessible market, and can command an easier sale and better price.

Horse-breeding.

This is not a selected horse-breeding district. Horses and ponies are sometimes imported from the Dera Ghazi Khan District, but the zamindars do not keep good mares, and the advent of motor vehicles has also reduced the demand for them. In the Thal it is almost impossible to keep a horse for want of fodder . The mares round about Rangpur belong to the Jhang breed, and some of them are quite good.

A small fair is held at Muzaffargarh in the beginning of March, at Karor in August and at Shahr Sultan in April under the management of the district board and the Civil Veterinary Department unless they are abandoned in consequence of prevailing scarcity or epidemics, and prizes are awarded.

There are three Government, and two district board, horse stallions in the district, and five donkey stallions. They are located at Leiah, Kot Adu, Muzaffargarh, Alipur and Jatoi. The number of mares covered in 1928-29 was 293, the lowest for 10 years. This may in part be due to stallions which are too old and otherwise unpopular with

zamindars who prefer the Baluchi breed. But they care very little really, and take no interest in measures for improving the breed. Table 23 shows the number of stallions kept, and the statistics of breeding of mares. People are not at all fond of having ponies of indigenous breed castrated, the result being that many pony mares are covered by the bad local ponies, and the local breed does not improve half as much as it should.

Cattle-breeding.

The district board purchased Hissar and Dajal bulls and made them over to leading zamindars. This proved a failure mainly for want of care of the bulls. It is now intended to subsidize bulls suitable for breeding purposes, and the experiment is being made first in the Muzaffargarh, Leiah and Kot Adu Tahsils. Ten bulls are at present subsidized, and it is proposed to purchase 20 more, and pay for their upkeep. That the district board has not done more is due to lack of funds. The Veterinary Department is paying attention to the castration of inferior bulls also. The Burdizo castrator has become very popular.

Cattle Diseases.

The following cattle diseases are met with in the district:—

Rinderpest.—Here it is called *mirani, chichak, sitla* or *bara rog.* It is a fatal contagious disease. The outbreaks and death-rate have been greatly reduced by inoculation, which is appreciated;

Hæmorrhagic septicæmia.—Called here *ghotu* or *galghotu.* It is a common contagious disease occurring in low-lying and marshy tracts after rains or floods. The mortality is very high, being from 90 to 95 per cent. Outbreaks of this disease are not so common as in previous years on account of the introduction of vaccination and inoculation ;

Black quarter.—Here known as *chauremar.* The attack of this disease has nearly been rendered harmless by vaccination;

Mange, pan or *kharsi.*—Is a common disease in camel and sheep. It ruins the skin and fleece, and causes death in neglected cases ;

Foot-and-mouth disease.—Here called *mohara* or *monh khur.* It is a common contagious disease, but seldom causes death ;

Rikki or *churki* (Strongylosis).—It is a common parasitic infection of sheep and goats, occurring in marshy tracts caused by stomach and intestinal worms;

Mehru (Warbles).—These are small swellings scattered along the back of cattle caused by a maggot of a biting fly

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(Gastrophilus bovis). It does not cause any systemic disturbance, but the hide is affected and value reduced by the presence of the maggots ;

Pluro-pneumonia-contageosa.—Here called *phiphry* or *tilli*. It is a catarrh of the lungs causing an enormous number of deaths among sheep and goats. It is not very common; and

Patha lagna (Prussic acid poisoning).—It is not a contagious disease. It is caused by the eating of stunted *jowar* when there is scarcity of rain.

The old method of quacks' treatment has been stopped by the introduction of vaccination and inoculation; however, some of the people still take their animals to shrines.

Veterinary Hospitals and Staff.

There are veterinary haspitals at Muzaffargarh. Kot Adu, Alipur, Rangpur, Rohillanwali, Jatoi and Leiah. One is about to be opened at Karor. These are maintained by the district board. A hospital is also required at Chaubara, but the district board has not been able to open it, although Government was giving a grant for the building. A Veterinary Assistant or Veterinary Assistant Surgeon is in charge of each dispensary, and there is an inspector in charge of the district under the Deputy Superintendent for the Dera Ghazi Khan and Muzaffargarh Districts, with headquarters at Dera Ghazi Khan, who tours in the district. There is also a Reserve Veterinary Assistant at Muzaffargarh.

Canal Systems.

Except for a few hundred acres in the extreme south-west, there is no canal irrigation in the Leiah Tahsil. Kot Adu, Alipur and the western two-thirds of Muzaffargarh are irrigated by inundation canals from the Indus and the eastern one-third of Muzaffargarh from the Chenab. On these canals the prosperity of the district depends, and their efficient maintenance is a most difficult problem which has every year to be solved by the local administration. Since there are no weirs across the rivers, it is useless to spend large sums of money in the construction of permanent headworks which may be deserted by the rivers; on the other hand, if there are no headworks, control is impossible. What the farmer wants, but in existing conditions seldom gets, is a steady supply of water from early May till June, increasing thereafter for the later kharif sowings and for the winter ploughings.

The canals have slowly grown from the creeks and originally had little command, the farmers lifting the water from them by *jhalars*.

This system gave a safe minimum of matured crops since it was easy to shut unwanted water outside the protective

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embankments. Under departmental management the tendency has been to take the heads further up the rivers and to increase command; this having been done without gaining control, the greatest fault in the present supply is that a shortage during May and June is succeeded by an excess in the later half of July and earlier part of August, when the irrigation channels inside the protective embankments have often to be used as escape channels to save the heads. While this short-lived maximum supply is available, the cultivators sow large areas of crops, but it is only in very exceptional years, when by some happy accident rain falls after the usual time or the rivers remain high into October, that there can be any hope of the harvest being a good one.

Indus Series.

There are six Indus canals, of which the two northernmost are the Kot Sultan and the Maghassan: these take their water from the creeks in the south of the Leiah Tahsil, and, since at that point the Indus is prevented by the foothills of the Suleman range from swinging to the west, the set of the river is towards the east, and the water-supply of these two canals is usually very steady and plentiful; they are the two best canals in the district. South of them is the Maggi, the biggest canal in Muzaffargarh: its mouths are situated on the Indus, where the river is swinging to the west and has washed away old Dera Ghazi Khan town. The Maggi for some years has been doing badly. The Ghuttu, further south, is better than the Maggi because it derives its water from a large creek, and is less affected by changes in the swing of the river. The Puran and Suleman, which irrigate the Alipur Tahsil, are, like the Maggi, being left by the Indus, but are still rather better than it.

Chenab Series.

There are three Chenab canals. The northernmost is the Karam, which takes off from the river in the Jhang District and irrigates the country round Rangpur town. Much of its best land has been lost by erosion, and the remoteness of Rangpur makes supervision difficult. The Karam is the worst of the canals in the district. The Taliri and Ganesh irrigate the same area, a narrow strip running from about 10 miles north of Muzaffargarh town to the south border of the Muzaffargarh Tahsil. The soil is in general excellent, and round Khangarh there are rich orchards mostly of mangoes, but since 1915-16 the extension of perennial irrigation in the Northern Punjab has left little water in the Lower Chenab, and in place of a steady constant supply the water in the canals rises and falls with great rapidity, and this part of the district is worse off than it was at the previous settlement. The old prosperity will return when a controlled kharif supply is given as a part of the Haveli Project, which, it is hoped, will shortly be put in hand.

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Panjnad Headworks.

The Sutlej Valley Project will take off from Pan'jnad, in this district, where a weir is being built. This district will receive no benefit; indeed it is feared there might be less flood water south of the headworks.

Inundation Canals best for District.

The spring-level being very near the ground surface in all parts of the district except the Thal, perennial irrigation from canals would raise the spring-level and result in water-logging. The existing system of irrigation from inundation canals for 5 to 7 months in the year, succeeded by well irrigation, is probably the best suited to the requirements of the district.

Indus Canals.

The Indus canals system consists of the following six canals: —

(1) The Hazara (and Kot Sultan) Canal, with 2 distributaries called Kishenwah and Tibba;

(2) The Maghassan Canal, the main channels of which are—

(a) Upper Maghassan ...	...	Main Line;
(b) Lower " ...	...	
(c) Mohanwah ...	...	Branches;
(d) Chaudhri... ...	...	
(e) Sardar	...	

(3) The Maggi Canal, the main channels of which are—

(a) Main Line of Maggi Canal

(b) Khudadad ...	...	Branches;
(c) Suk ...	...	
(d) Dinga ...	..	

(4) The Ghuttā Canal, the main channels of which are—

(a) Main Line of Ghuttu Canal

(b) Adil	...	Branches;
(c) Raj	...	
(d) Bahishti ...	...	
(e) Sardarwah ...	...	

(5) The Puran Canal, the main channels of which are—

(a) Main Line of Puran Canal

(b) Surab	...	Branches; and
(c) Kaure Khan ...	...	
(d) Bakhi	...	
(e) Kapre Khas ...	...	
(f) Lunda	...	

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(6) The Suleman Canal, the main channels of which are—

(a) Main Line of Suleman Canal

(b) Soharu ... ... } Branches.
(c) Khanwah ... ... }

Remodelling proposals are in hand for the Indus series of canals. Construction work in connection with the remodelling of the Kot Sultan and Hazara Canals and the Maghassan has been started under a special construction subdivision which was sanctioned from the 1st December 1929. Detailed estimates for remodelling the Maggi and Ghuttu Canals have been submitted to Government, while those for Puran and Suleman are being prepared.

Chenab Canals.

The Chenab canals system consists of three canals—

(1) *Karam*, which is a small canal taking off the river in the Jhang District and irrigating the north-eastern part of this district in the neighbourhood of Rangpur; its branches are Bighari and Fattu Fannakka;

(2) *Ganesh*, main line with Waliwah, Jalalabad and Jagatpur branches; and

(3) *Taliri*, with its main branches Hajiwah and Fannakka;

History of Canals.

A brief history of the different canals in the district is given below. It is important in the special and peculiar circumstances of the district as there is a tendency for claims to be advanced on the alleged ownership of these canals since they were taken over by Government. The expenditure by the Canal Department in recent years is not given.

CHENAB SERIES.

Karam.

The canal was a creek of the Chenab called Dadal. This creek was improved by Diwan Karam Narain, son of Diwan Sawan Mal, Governor of Rangpur, who spent Rs. 5,000 on the work, and repaid himself by levying Rs. 5 per outlet. Owing to the action of the river, the head of the canal had to be changed from time to time, the different heads being constructed with *chher* labour.

No compensation was ever paid by Government on account of cost of land under the canal. It was originally recorded as belonging to various villages, but at the first regular settlement the entry made in the records in respect of the ownership of land was *zer nala, i.e.*, under the canal. Compensation was paid only when a new head had to be

excavated in the Jhang District in 1885. When the new canal rules came into force, the canal was classed as a Government canal.

The following are the branches of the canal:—

(1) *Bighari*, 5½ miles in length; and

(2) *Fattu Fannakka*, about 4 miles in length.

Three other branches, Jallu, Massu and Akbar, have been abandoned.

The Public Works Department spent Rs. 4,084 in 1883-89 on a rest-house and chauki at Rangpur, and Rs. 444 in 1890 on a well in the compound of the rest-house, the expenditure being met from the *zar-i-nagha* fund.

Ganesh.

Excavated in the time of Nawab Khan by the zamindars at their own cost. It was then called the Gauswah. In the time of Diwan Sawan Mal its name was changed to Ganeshwah. The course of the canal was very tortuous between Shahrangpur and Khanpur. In 1883 it was straightened and made parallel to the Rangpur road.

Till 1879 no compensation was paid by Government on account of the cost of land. In 1883 Rs. 512-9-6 were paid out of the *zar-i-nagha* fund as compensation for the land obtained for straightening the canal.

The following are the branches of the Ganesh:—

(1) *Karya.*—Dug at his own expense by one Chhaju Mal in Diwan Sawan Mal's time 80 years ago (Now abandoned);

(2) *Waliwah.*—Constructed in 1883-84;

(3) *Khandar.*—An old part of the Ganeshwah lying in ruin, 1¼ miles long. Irrigates the neighbouring villages (Now abandoned);

(4) *Lunda.*—Dug by people 100 years ago at their own expense, amounting to Rs. 500. The branch became useless, and a new one was dug in the time of Diwan Sawan Mal costing Rs. 200 (Now abandoned);

(5) *Jalalabad.*—2½ miles long; and

(6) *Jagatpur.*—4¾ miles long. Dug by the irrigators at their own cost.

Taliri.

The Jhangawar Canal has been amalgamated with the Taliri. It was dug by Nawab Bahawal Khan at a cost of

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Rs. 4,000. Owing to the action of the river, its head had to be changed from time to time. No compensation was ever paid. It had two branches, Pirwah and Makhnan, dug by the zamindars in the time of Nawab Bahawal Khan. The Alli and Khalli were also branches of it. The former was dug in the time of Diwan Sawan Mal, and the latter in the time of Nawab Bahawal Khan. No compensation was paid. These have been abandoned, together with the Jhandan and Dharkanwala branches; both were dug by zamindars.

From time immemorial the Taliri Canal ran in the shape of a branch of the Chenab from Khudai to Kachi Saidu Khan. Owing to the action of the river, the head of the canal had to be changed from time to time. The canal was straightened and widened for 6 miles with *chher* labour, and Rs. 4,000 were paid out of the *zar-i-nagha* fund. No compensation was paid.

The following are the branches of the canal:—

(*i*) *Shakh Takan Mal*, or *Purana Taliri*.—A part of the old Taliri now serving as a branch of the canal;

(*ii*) *Wafadarpur*.—Remodelled by the Canal Department from *Rajwah Gharbi* and *Sharki*, which were constructed with *chher* labour. No compensation was paid;

(*iii*) *Hajiwah*.—Dug in the time of Nawab Muhammad Zafar Khan in Sambat 1845, 11 miles in length;

(*iv*) *Khanwah*.—Dug in the time of Nawab Muhammad Zafar Khan in Sambat 1845;

(*v*) *Ghazanfarwah*.—Reconstructed at a cost of Rs. 4,000 in the time of Nawab Ghazanfar Khan 140 years ago;

(*vi*) *Pirwah*.—Dug by irrigators in the time of Nawab Shuja Khan in Sambat 1845 at a cost of Rs. 3,000;

(*vii*) *Nangniwah*.—Dug by irrigators 130 years ago in the time of Nawab Shuja Khan at a cost of Rs. 3,000 (Now abandoned);

(*viii*) *Khokhar*.—Dug by irrigators 125 years ago in the time of Nawab Shuja Khan at a cost of Rs. 4,000; and

(*ix*) *Nurwah*.—Dug by irrigators 130 years ago in the time of Nawab Shuja Khan at a cost of Rs. 4,000.

Hazara and Kot Sultan Canal.

During the reign of the Khurasan rulers one Abdul Samad Khan, a *jagirdar*, dug the Garku Canal from the Chhitta creek at his own expense, and one Mian Matka widened it in the time of Maharaja Ranjit Singh. Owing to the action of the river, its head had to be changed twice.

No compensation has been paid by Government for land under the canal and its distributaries, except in the follwing cases:—

	Rs.
(*a*) For Rajbah, Riayatwah Branch of the Mohanwah	7,800-0-0
(*b*) For the construction of a new head and part of the Mohanwah ...	2,334-3-3

The following were the branches of the canal:—

(1) *Kot Sultan.*—Dug in 1883-84 with *chher* labour;

(2) *Hinjrai.*—An old branch of the Ghuttu. It was constructed by irrigators at their own expense in the time of Maharaja Ranjit Singh 90 years ago;

(3) *Din Muhammad.*—Dug by irrigators in the time of the Khurasan rulers 120 years ago;

(4) *Radha.*—Dug by the Canal Department with *chher* labour in 1884-85. No compensation was paid;

(5) *Mohanwah.*—Dug by the Canal Department with *chher* labour in 1882-83. A new head and a branch were constructed in 1892 with *chher* labour. Now amalgamated with the Maghassan Canal;

(6) *Nangni.*—Dug by zamindars in the time of Diwan Sawan Mal 90 years ago. Now amalgamated with the Maghassan Canal;

(7) *Khan Chand.*—Dug by Matka, Kardar, in the time of the Sikhs 85 years ago;

(8) *Fazil.*—Dug by zamindars in Sambat 1919-20 under the supervision of M. Fazil Hussain Tahsildar. In 1818 its head was changed with *chher* labour;

(9) *Panjhathi.*—Dug by zamindars 90 years ago; and

(10) *Mirwah* alias *Utani.*—Dug by zamindars of Parhar Sharki and Kut in 1867-68 under the supervision of M. Mir Muhammad, Tahsildar.

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The old Garku and its branches have been remodelled, and the canal is now known as Hazara. There is a Kot Sultan channel and two distributaries called Tibba and Kishenwah.

The Canal Department spent the following amounts on the works noted below:—

Nala.	Work.	Year.	Cost.
			Rs.
Hazari ..	Regulator	1882-83	2,575
Gulzari ..	Do.	1882-83	1,918
Din Muhammad ..	Do.	1882-83	2,845
Khan Chand ..	Do.	1882-83	2,207
Fazilwah ..	Do.	1882-83	2,618
Nangni ..	Do.	1882-83	1,344
	Rest-house (Karari) ..	1882-83	490
	Rest-house (Pharhir) ..	1882-83	2,180
	Shelter-house (Garku) ..	1882-83	1,355
	Rest-house (Kot Sultan) ..	1888	4,358
	Well in the compound of rest-house at Kot Sultan.	1890	442

The whole of the money was spent from the *zar-i-nagha* fund.

Maghassan.

Owing to the action of the river, an old bed of the river began to run in the time of the Afghan rulers. From this bed the irrigators dug this canal.

In 1888 the Khanwah was extended, and Rs. 585 were paid as compensation for 15·12 acres.

In 1889 again the head of this canal was straightened, and 11-1-24 acres of land came under it. No compensation was paid for the land. In 1889 the Chaudhriwah was straightened, and no compenstion was paid.

The following are the branches of the Maghassan:—

(1) *Chaudhri.*—Was dug from Garku by Paira Ram at a cost of Rs. 1,300 130 years ago in the time of Nawab Muhammad Khan. Later it was joined on to the Maghassan. Nangni and Dhol are its branches—

(i) *Nangni.*—Dug by irrigators about 105 years ago. Its tail splits into two branches. *i.e.*, Nangni and Nari;

(ii) *Mohanwah* (See under "Hazara and Kot Sultan Canal");

(iii) *Dhol.*—Dug by irrigators 85 years ago; and

(iv) *Sirmuni.*—Dug by irrigators 105 years ago;

(2) *Kesho.*—Dug along the eastern side of the *bund* with *chher* labour in 1882 by the Canal Department, and extended in 1888. It has two branches—

(i) *Ganda Bhubbar.*—Dug from the Maghassan creek 130 years ago. This branch has three sub-branches—(1) Sahju, (2) Sohni, and (3) Hala (Since abandoned); and

(ii) *Ganda Pahar.*—Dug from the Maghassan by irrigators 110 years ago;

(3) *Raju.*—Dug by irrigators in the time of Khazan Singh, Kardar, 90 years ago;

(4) *Karya Chaudhri* and *Nabiwah;*

(5) *Sardarwah.*—Dug by zamindars in the time of Nawab Muhammad Khan 130 years ago. It has the following branches:—

(i) *Karya Muhammadpur.*—Dug by irrigators 90 years ago under the supervision of Sube Khan, Kardar, of Muhammadpur;

(ii) *Karya Gaman Khan.*—Dug by irrigators 110 years ago in the time of Nawab Muhammad Khan;

(iii) *Karya Khanpur.*—Dug by irrigators 90 years ago under the supervision of the Kardar of Khanpur (Now abandoned);

(iv) *Karya Sanawan.*—As in (*ii*) above;

(v) *Karya Tej Bhan;*

(vi) *Muradwah.*—Dug in 1883-84 with *chher* labour under the supervision of the Canal Department;

(vii) & (viii) *Nangnis Kalan and Khurd.*—Both the canals were dug by irrigators in the time of the Afghan rulers some 150 years ago. Nangni Khurd, being useless for 25 years, was reconstructed in the time of Diwan Sawan Mal;

(ix) *Jan Muhammad.*—Dug by Jan Muhammad and other irrigators of Ladha Langar in the time of the Afghan rulers in Sambat 1909 (Now abandoned);

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(*x*) *Pirwah.*—Dug by Pir Shah Sawaz and other irrigators 60 years ago (Now abandoned);

(*xi*) *Hamza.*—Dug jointly by Diwan Sawan Mal and irrigators 90 years ago (Now abandoned);

(*xii*) *Chakar Khan.*—Dug twice from a *dhand* in Jhandir Dureja Gharbi by the irrigators of Thatta Gurmani, and then from the Maghassan creek by Chakar Khan before the time of Diwan Sawan Mal. It has two branches—

(*i*) *Karya Khokhar*, now *Khakh.*—Dug by the irrigators of Khokhar 65 years ago; and

(*ii*) *Karya Tibbi Nizam.*—Dug by the irrigators of Tibbi Nizam 60 years ago (Now abandoned);

(*xiii*) *Nala Chuan.*—Dug by the irrigators of Sanawan and Mahmud Kot in the time of Nawab Mahmud Khan 130 years ago; and

(*xiv*) *Ghulamwah.*—Was originally a small water-course, but afterwards was turned into a canal.

Maggi.

It was a branch of the river from which canals were dug from time to time. Owing to a change in the course of the river, it assumed the shape of a canal, and in 1883-84 it was classed as a canal.

No compensation was paid for the land under the canal. Rupees 93-1-8 were, however, paid for land acquired for a *bund* in Chibbar Khor Serin and Sharif Chajjra in 1889.

The following are the important branches of the canal:—

(1) *Khudadad.*—Dug with *chher* labour in 1882-83. A new head was constructed in Thatta Gurmani in 1888. It has six branches—

(*i*) *Kotwah.*—An old branch. Dug in Sambat 1912 by irrigators;

(*ii*) *Karya Kuhawar.*—Dug by zamindars in the time of the Afghan rulers (Now abandoned);

(*iii*) *Haji Ishaq.*—Dug by irrigators in 1879 at a cost of Rs. 2,000, one-fourth of which was paid by Government out of the *zar-i-nagha* fund (Now abandoned);

(*iv*) *Bulewali.*—Dug with *chher* labour in 1887 by the Canal Department (Now abandoned);

(*v*) *Sultan Khar.*—Dug by irrigators; and

(*vi*) *Fazil Kalru.*—Dug by irrigators (Now abandoned);

(2) *Suk.*—It has six important branches—

(*i*) *Jakhriwah.*—Dug by irrigators in the time of Nawab Bahawal Khan;

(*ii*) *Thalwah.*—Dug by zamindars in the time of Nawab Muhammad Khan. Bahawalwah and Karya Ghattawala are its branches;

(*iii*) *Sanwah.*—Dug by zamindars 220 years ago in the time of Nawab Ghazi Khan. A new head was constructed in the time of Diwan Sawan Mal;

(*iv*) *Kalwah.*—Dug by irrigators at their own expense, amounting to Rs. 9,000, in 1840. A new head was constructed at the cost of Rs. 115 paid out of the *zar-i-nagha* fund;

(*v*) *Sardar Khurd.*—It was dug by irrigators in the time of Nawab Sadiq Muhammad Khan 120 years ago. A new head was constructed in Sambat 1920 (Now abandoned); and

(*vi*) *Ahmadwah.*—Was first a zamindari *nala.* In 1890 it was classed as a Government canal (Now abandoned);

(3) *Dinga.*—Has three important branches—

(*i*) *Bhangarwah.*—Was a zamindari *nala.* In 1890 it was classed as a Government canal;

(*ii*) *Sardar Kalan.*—Dug in the time of Nawab Ghazi Khan 220 years ago by zamindars; and

(*iii*) *Nangwah.*—Dug by irrigators in the time of Nawab Mubarik Khan 220 years ago. Chatle and Garkanna are its branches.

Government constructed a rest-house at Kinjhar at a cost of Rs. 3,784 in 1886-87 to 1895-96, and a shelter-hut of Sardar Kalan at a cost of Rs. 312 in 1896. Both the sums were met from the *zar-i-nagha* fund.

Ghuttu.

The Adilwah is now a distributary of the Ghuttu Canal. It was dug by irrigators in the time of Nawab Bahawal Khan. Owing to the action of the river, its head had to be changed from time to time. No compensation was ever paid for land taken up.

It had nine branches, and was 10 or 11 miles long, *viz.* :—

(1) *Karya Khokhar.*—Dug by zamindars 165 years ago;

(2) *Karya Isa Bhabewala.*—Dug by irrigators 140 years ago;

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(3) *Karya Rakba Sarkari.*—Dug by irrigators 190 years ago;

(4) *Karya Dewalewala.*—Dug by irrigators (When dug is not known);

(5) *Karya Makwalwala.*—Dug by irrigators 160 years ago;

(6) *Menghwah.*—Dug by Mangha Karar, an irrigator, 130 years ago;

(7) *Paunta Malana.*—Dug by Ala Yar, Malana, and other irrigators, 85 years ago;

(8) *Karya Bilochanwala.*—Dug by irrigators 35 years ago; and

(9) *Harpallo.*—Dug by the zamindars of Bāsti Jallol 165 years ago, and extended lately to Harpallo.

All these branches have since been abandoned.

The Ghuttu formerly was a branch of the river Indus called Chhitta. Several canals were dug from this branch. Its head hās sometimes to be changed. In 1896-97 a new head was constructed in village Yarajoya. In 1883-84 it was classed as a canal, and the canals fed from it as its branches. A new *pakka* head regulator for the Ghuttu Canal below the railway line was built in 1928 by the Canal Department.

Compensation was paid only in the following cases from the *zar-i-nagha* fund :—

	Rs.	A.	P
In 1887 for Karmwah	849	14	6
In 1888 for Rajwah head	809	14	3

It has the following branches :—

(1) *Pir.*—Dug in Sambat 1918 by the zamindars of Paunta Malana, Bhundewali and Rohillanwali, who also spent Rs. 5,000 in cash. After some time a new head was constructed in village Fatteh Muhammad Abrind at a cost of Rs. 2,000. In 1884-85 the course of the branch was changed from Bhundewali to Rohillanwali with *chher* labour;

(2) *Rajwah.*—Dug by irrigators 190 years ago in the time of Nawab Bahawal;

It has three branches—

(*i*) *Kalan Shah.*—Dug by zamindars 140 years ago;

(*ii*) *Hammarwali;* and

(*iii*) *Darin.*—Dug in Sambat 1911 by zamindārs:

(3) *Bahishti.*—Dug 200 years ago in the time of Nawab Ghazi Khan by irrigators. It ceased to run 40 years after, and in Sambat 1918 was reconstructed by the irrigators at a cost of Rs. 9,000. It splits into two branches—

(i) *Bakhtwah*, which was dug 54 years ago by the irrigators of Kadirpur; and

(ii) *Azimwah*, which was constructed with *chher* labour in 1883-84;

(4) *Rerhu.*—Dug from Chhitta creek in the time of Nawab Bahawal Khan by the irrigators of certain villages at a cost of Rs. 7,000. Its head had to be changed several times. It had four branches, which have been abandoned, and now it has become a branch of Bahishti, with a distributary, Fattuhal;

(i) *Karya Fattu Mal.*—Dug by irrigators 165 years ago;

(ii) *Mohriwal.*—Dug by irrigators 165 years ago;

(iii) *Karya Jannun.*—Dug by irrigators 164 years ago; and

(iv) *Karya Tahliwala.*—Dug by irrigators 165 years ago;

(5) *Sardarwah.*—Dug by irrigators 160 years ago in the time of Nawab Bahawal Khan with *chher* labour. It has since been remodelled, and now takes off direct from Ghuttu Canal, instead of Sardarwah. It has eight branches—

(i) *Shujra Kassi.*—Dug in 1887 with *chher* labour;

(ii) *Ahmad Shah.*—(When dug is not known);

(iii) *Khandar.*—Dug by irrigators 140 years ago, and widened in 1884-85 with *chher* labour;

(iv) *Karam*, now called *Kiraru.*—Dug by irrigators 140 years ago;

(v) *Muradpuri.*—Dug by irrigators 54 years ago at a cost of Rs. 3,000;

(vi) *Hajiwah.*—Dug by irrigators 42 years ago;

(vii) *Kadirpuri.*—Added by the Irrigation Department; and

(viii) *Chhahatta.*—Added by the Irrigation Department;

(6) *Harnam.*—Dug by the Canal Department with *chher* labour in 1887. It has two branches—

(i) *Ghallu;* and

(ii) *Karya Muhammad Hussain;* and

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(7) *Ghallu.*—Dug by irrigators in the time of Nawab Bahawal Khan 140 years ago. It is now a branch of the Harnam.

Puran.

An old bed of the Indus. Some 190 years ago Sehj Ram, Kardar, constructed it by levying a *chhera* per well in the time of Nawab Bahawal Khan. A new head was constructed in the time of Diwan Mul Raj at a cost of Rs. 16,000—three-fourths of the amount were expended by irrigators and one-fourth by the diwan himself. Owing to the action of the river, different heads had to be constructed from time to time with *chher* labour.

No compensation was paid, except in the following cases:—

		Acres.	Rs.	A.	P.
In 1888.—For Lunda Branch	...	185·45			
For Puran ,,	...	40·48			
For Rakh ,,	...	22·52			
For Ghauspur ,,	...	11·12			
For Bazwala ,,	...	10·36			
		269·93—	6,381	10	11
In 1891.—For the construction of new heads of Bahawalwah and Julwah	...	1·12—	32	9	0

The following are the branches of the canal:—

(1) *Karya Nabi Bakhsh Shahwala.*—Constructed at the request of the irrigators of Bet Hazari, etc., with *chher* labour in 1896-97;

(2) *Shakh Kaure Khan.*—Constructed in 1898-99 with *chher* labour at the request of Kaure Khan. It has a branch, Gulwah;

(3) *Bhakhi.*—Was constructed by irrigators 140 years ago with *chher* labour. Nawab Bahawal Khan paid Rs. 5,000 to assist the construction work. It has three branches—

(*i*) *Karya Turk.*—Constructed by irrigators at a cost of Rs. 250;

(*ii*) *Beti.*—Added by the Irrigation Department; and

(*iii*) *Karya Sandilewala.*—Constructed 130 years ago by irrigators with their own labour (Now abandoned);

(4) *Khanana.*—Constructed 130 years ago by the zamindars of Bet Khanwala and Mela Chacha with their own labour. A new head was constructed in 1889 with *chher* labour (Now abandoned);

(5) *Namana.*—Constructed by irrigators with their own labour 170 years ago (Now abandoned);

(6) *Kaprekhas.*—Constructed 120 years ago in the time of Nawab Bahawal Khan by the zamindars of Jhallarin ($\frac{2}{5}$ths) and Wassan ($\frac{3}{5}$ths) at a cost of Rs. 1,500. Rupees 100 were again spent after 30 years on the construction of a new head;

(7) *Saidwah.*—Was excavated in 1884 at the request of the zamindars of Hamzewali with *chher* labour, and extended to Gagrewali and Mudwala in 1892;

(8) *Kutab.*—Dug by the zamindars of Shahbazpur and Jhallarin 100 years ago. After 40 years its head was changed at a cost of Rs. 4,000. Extended in 1890 with *chher* labour;

(9) *Lunda.*—Dug by irrigators 140 years ago, and extended by the Canal Department in 1888 to Ghari;

(10) *Sahaiwala.*—Dug by zamindars 150 years ago. It is now a branch of the Rajwah;

(11) *Pirwah.*—Dug by certain villagers at a cost of Rs. 11,000 190 years ago. A new branch was constructed in 1890 by the Canal Department. It is now a branch, with Muridwah as a distributary;

(12) *Punnuwah.*—Dug by irrigators 100 years ago, and extended to Aliwali in 1888 by the Canal Department. It is now a branch of the Rajwah;

(13) *Matwaniwali.*—Dug by irrigators 90 years ago (Now abandoned);

(14) *Sultan.*—Dug by irrigators 140 years ago at a cost of Rs. 400. It is now a branch of the Rajwah;

(15) *Rajwah.*—Constructed by the Canal Department in 1890-91. It has three branches—

(*i*) *Subaiwala;*

(*ii*) *Punenwah;* and

(*iii*) *Sultan;*

(16) *Bhagti.*—Dug in 1882-83, and extended in 1883-84 with *chher* labour (Now abandoned);

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(17) *Kadra.*—Dug by irrigators 190 years ago in the time of Nawab Bahawal Khan. It had the following branches, now abandoned:—

(*i*) *Rakh;*

(*ii*) *Bazwah;* and

(*iii*) *Ghauspur;*

(18) *Bahawalwah.*—Dug in the time of Nawab Bahawal Khan 130 years ago. Half the amount expended on the work was paid by the nawab, and the other half by the irrigators ;

(19) *Khanwah.*—Dug by irrigators in the time of Nawab Bahawal Khan 120 years ago, and extended in 1891 with *chher* labour ; and

(20) *Chandar Bhan.*—Constructed by the Irrigation Department.

Suleman.

The Sohrab, now amalgamated with the Suleman, of which it is a branch and takes off from the Bakaini regulator, was constructed by Nawab Ghazi Khan 170 years ago at a cost of Rs. 75,000. Nawab Bahawal Khan constructed a new head 130 years ago, spending Rs. 4,000. The head had to be changed twice later on, Rs. 10,550 being spent by the nawab. In the time of Diwan Sawan Mal the head was changed twice with *chher* labour. No compensation was ever given, except Rs. 791-4-7 paid for land taken up for a new head in 1895. The amount was met from the *zar-i-nagha* fund.

It had three branches—

(1) *Jogiwah* (Now abandoned);

(2) *Mughalwah.*—Dug in the time of Nawab Ghazi Khan 160 years ago by one Nur Muhammad Khan at a cost of Rs. 5,000. Being useless, it was reconstructed by the zamindars of Bilewala, Kot Ratta, Khalti and Jatoi Shumali. In 1896 and 1897 it was straightened in the boundaries of Daulatwahi ; and

(3) *Ratanwah.*—Dug by irrigators 90 years ago, and extended in 1898-99.

The Suleman was dug with *chher* labour in the time of Nawab Bahawal Khan under the supervision of Sultan Khan from the Mochiwala creek 110 years ago. A new head was constructed in 1888-89 from Sohni creek. Since 1896-97 the old channel has been used as its head. No compensation was paid.

It has the following branches, in addition to the Sohrab:—

(1) *Khanwah.*—Dug with *chher* labour by irrigators in the time of Nawab Bahawal Khan 120 years ago. Owing to the action of the river, its head had to be changed three times. The last one was dug from the Suleman in 1883-84. In 1889 a curve of the branch was straightened with *chher* labour. Its head has been washed away and a *kachha* head has been made direct from the Indus River;

(2) *Wahli.*—Dug by irrigators 90 years ago.

It has two branches—

(*i*) *Alluwah;* and

(*ii*) *Theri;*

(3) *Soharu.*—Dug in the time of Diwan Sawan Mal by the villagers of Dera and Kohar Fakiran 80 years ago. It has two branches constructed by Government—

(*i*) *Khairpur,* with three branches—

(1) *Lalwah;*

(2) *Umarwah;* and

(3) *Geri;*

(*ii*) *Mithanwali,* with three branches—

(1) *Yarewali;*

(2) *Sultanpur;* and

(3) *Nabipur.*

The former was dug in 1889 from the *zar-i-nagha* fund, and its branches (1) and (2) with *chher* labour in 1893-94 and 1891, respectively.

Substitution of Occupiers' Rates for *Chher.*

The main canals were all originally constructed by the people. Before annexation, the management of the canals was in the hands of the irrigators, assisted by the local officials, who saw that the labour necessary for the clearance and maintenance of the canals was promptly turned out. From anexation till 1880, improvements in the management of the canals were made from time to time, but eventually the necessity for professional management was recognized, and in 1880 the district was constituted a Public Works Department Division and an Executive Engineer was appointed to manage the canals in the district. The irrigators paid

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no price for the water beyond furnishing labour to clear and maintain the canals according to a system called the *chher* system, which is explained below:—

"The working expenses of the canals, with the exception of a contribution of nearly Rs. 17,000 made by Government on account of pay of daroghas, mirabs, etc., out of the imperial funds, are borne by the people. The clearances are effected by *chher* labour suplied by the people, and any work left unfinished is completed by paid labour out of the *zar-i-nagha* fund, into which all fines inflicted upon absentee *chher-guzars* (assessors of statute labour) are credited. Other improvements needed are also effected out of this fund when there is money to spare. As regards the assessment of *chher*, an estimate of the probable requirements of each canal is made by striking an average for the past three years of the total number of *chheras* (labourers) who were actually present on works, together with *chheras* remitted to *sarpanches* and any supplementary *chheras* called out. To this average is added the number of *chheras* called out for urgent works in summer. The estimate is discussed by the Divisional Canal Officer with the *sarpanches* (representatives of irrigators on each canal) assembled in a committee, and is raised or lowered, within a limit of 20 per cent., according to the probable requirements of the next working season. The total *chher* assessable for the year is thus arrived at. This is done in the month of September. An average rate per acre is then deduced by dividing the total number of *chheras* required for each canal by the average area irrigated by that canal during the past three years. This rate is called the *chher-parta*. The *chher-parta* for each canal is communicated to the Collector, who has *chher* papers prepared by the patwaris. The area irrigated is assessed at the *parta* above mentioned, and so the number of *chheras* to be supplied by each irrigator is determined." This system has been described as it is still largely followed in the Leiah Tahsil in dealing with the creek irrigation there. It is supervised by the tahsildar and sub-divisional officer. The Irrigation Department has no concern with it. The *nagha* fund remains with the Deputy Commissioner.

On the abolition of the *chher* system for the canals in 1902, an occupiers' rate was substituted for it. On what considerations the rates should be fixed formed the subject of discussion, and it was eventually decided that "for the present the rates may be so fixed as to yield an income which shall not more than cover the cost of working the canals." The contention of the Canal Department was that the occupiers' rates should be framed irrespective of the working expenses, and should represent the price of water. The

reasons which led Government to the above decision were thus stated:—

"The enhancement of land revenue which is being taken is a full one; the abolition of *chher* is a change which the majority of the people profess to dislike; and, in the absence of keen competition of tenants for land, there is a danger that the occupiers' rates, if high or full, might fall upon the owners to pay in addition to the land revenue" (Punjab Government letter No. 48, dated the 4th March 1902).

The following rates have since been sanctioned by Government:—

Class.	Crops.	Rate per acre of matured crops.	
		Flow.	Lift.
		Rs. a. p.	Rs. a. p.
	CHENAB CANALS.		
I	Rice, gardens and pepper ..	2 12 0	*1 6 0
II	Cotton, sugarcane and indigo	1 8 0	*0 12 0
III	Other kharif crops ..	1 2 0	0 9 0
IV	Rabi crops (Other than gardens).	0 12 0	0 6 0
V	Grass lands (*Posal*) ..	0 6 0	†0 3 0
	INDUS CANALS.		
I	Rice, gardens and pepper ..	2 0 0	1 0 0
II	Cotton, sugarcane and indigo	1 0 0	0 8 0
III	Other kharif crops ..	0 12 0	0 6 0
IV	Rabi crops (Other than gardens).	0 8 0	0 4 0
V	Grass lands (*Posal*) ..	0 4 0	†0 2 0

*Notifications Nos. 052-R. I., dated the 7th July 1903, and 100-R. I., dated the 2nd February, 1916.

†Notification No. 434-R. I., dated the 4th May 1907.

NOTE.—The rates for grass lands are to be assessed at the discretion of the Deputy Commissioner.

	Per acre.
	Rs. a. p.
NOTE.—Water-advantage rate	0 12 0
Barani rate	0 4 0

CHAPTER II, A.

AGRICULTURE,

These rates are assessed every year on the area of matured crops. Certain lands receiving canal irrigation, which have hitherto been exempt from furnishing *chher*, or have furnished *chher* at half-rates, are to be treated in accordance with the rules sanctioned by the Punjab Government (Revenue and Financial Secretary's letter No. 82, dated the 21st September 1903, and given in appendix VII-G to the settlement report).

A double set of rates for the Chenab and Indus Canals was justified owing to a very considerable difference in the fertilizing value of the silt carried by the water of the two rivers, the difference in the quality of the lands irrigated by the canals fed from the two rivers and the profits of the cultivators and owners derived therefrom. The occupiers' rates were introduced on the Barku (now Kot Sultan and Hazara), Maghassan and Maggi Canals which irrigate the Kot Adu Tahsil and part of the Muzaffargarh Tahsil with effect from kharif 1902, and in the rest of the district from kharif 1903.

Canal Credits.

All the revenue realized from the occupiers' rates goes to the Canal Department as a direct credit. It is, however, also entitled to a share of the land revenue which may be said to consist of the water-advantage revenue in the canal-irrigated tract where cultivation depends mainly on canals. The Canal Department, under the orders contained in Financial Commissioner's letter No. 92, dated the 11th January 1927, is given indirect credit for the following items:—

(*a*) all canal-advantage revenue which is assessed on extended canal irrigation ;

(*b*) a sum of Rs. 1,45,600 per annum (kharif Rs. 58,500, rabi Rs. 87,100) out of the fixed land revenue for the term of the current settlement; and

(*c*) all fluctuating revenue assessed on canal-irrigated crops (by crop rates).

Area irrigated.

Of the total area cultivated in 1920-21, 710,839 acres were classed as cultivated, and of this 497,495 acres were irrigated—329,915 from Government works—see tables 1 and 24 in volume B.

Canal Advisory Committee.

There is now a canal advisory committee with the Executive Engineer as president. Certain members are elected by the district board, and the Deputy Commissioner and Executive Engineer nominate others.

CHAPTER II, A.

AGRICULTURE, Major and Minor Irrigation Works.

There are no major irrigation works in the district. All the canals are classed under minor irrigation works.

Canals used for Navigation.

No canals are used for navigation purposes.

Bunds.

The total length of *bunds* in the district is as below:—

	Miles.
Indus *bunds*	123
Chenab *bunds*	46

Fishing.

Fishing affords a living for the Jhabels and certain other classes. The right to fish in the *dhands*—depressions and backwater channels—is leased every year. Similarly, fishing in the Chenab and in the Indus (only in the Muzaffargarh Tahsil) is leased separately. An account of the fish is given in chapter I.

CHAPTER II, B.

RENTS, WAGES, PRICES AND MATERIAL CONDITION OF PEOPLE.

SECTION B.—RENTS, WAGES, PRICES AND MATERIAL CONDITION OF PEOPLE.

Proprietary and Cultivating Occupancy of Land.

This matter is dealt with in chapter III-C.

Occupations.

Table 17 in volume B shows the occupations of persons in the district in 1921, including labourers of all kinds.

Farm Labourers and Menials in each Tahsil.

As regards the wages of farm labourers and menials, the following accounts are taken from the tahsil assessment reports.

LEIAH TAHSIL.

Leiah Tahsil.

For each yoke an able-bodied man is required, whether he be owner, tenant or paid farm-hand (*beli*). The latter receives wages made up as follows: (1) his own food—*khad;* (2) *muddha*, originally an allowance to married men, which is actually paid to all, whether they have a wife or no ; (3) *virsa*, a lump payment of grain on account of the extra work done at harvest; (4) *bijrai*, a similar payment made at seed-time; and (5) *sirpa*, a small sum of pocket money in cash, varying from annas 8 to Rs. 4 a month. Except the shepherds, who are given warm quilted coats, the labourers are seldom clothed by their masters. The grain is paid as *hunala* for 8 months, of which ⅔rds are wheat and ⅓rd barley, and *siala*, usually *bajra* or maize, for the other four. The proportion of grain given in the different heads varies considerably in different parts of the tahsil, but the total is nearly the same everywhere, and has changed little since settlement. It is rather more than a maund a month. The rich apparently find that it pays to give as much cash as possible; but, except that of the headman on a large well, the *sirpa* is seldom more than Rs. 2 a month. In addition to his wages, the labourer, especially in the Thal, gets such concessions as ewe's milk and a little fodder for the few beasts which he may own. In the Thal, where cultivation cannot be made without manure, either a flock is kept for each well, or manure is purchased. The shepherd gets *khad*, *muddha* and *sirpa* at *beli's* rates, but, in place of *bijrai* and *virsa*, a thick coat, his fill of milk—" who feedeth a flock, and eateth not of the milk of the flock"—and a lamb picked by himself at both lambing seasons. He can tend 150 sheep; if the flock exceed that number, a boy is given to help him, who is paid at half the man's wage. If manure is purchased near the towns, a donkey and driver are kept, whose only duty is to carry to the well the filth of the streets obtained from towns, etc. The driver is paid at the usual rates for farm-hands.

Menials in the Thal.

The menials are paid in the Thal a fixed amount of produce for each yoke, which has not changed since settlement.

As is natural on small scattered patches of cultivation remote from any centre of population, most of the work of cultivating and harvesting the crops is done by the owners and *belis*, and the menials are only used for such specialized work as cannot be done by the ordinary farm-hand. The most important menial, without whom the well cannot carry on, is the carpenter. Since the well-gear is made of the wood of the soft tamarisk, it rots and splits frequently, and the carpenter's presence is often urgently needed. Moreover, the water of most of the Thal wells is brackish and rots the well rope in which the wooden slats to which the pots are tied are fixed by the carpenter. When an accident happens to the well-gear, unless the carpenter comes at once the whole crop may be spoilt. It is therefore to the farmer's advantage to keep on good terms with his carpenter, who is the spoilt child of the Thal, and usually a very opulent person. When he is called in, he is always fed on the fat of the land, and, in addition, takes rather more than any other menial. He charges a fixed sum in grain for each yoke working on the well, usually 7 *topas* (about 16 seers) in the winter, often all in wheat, but sometimes ⅓rd in barley, 2 *topas* of *bajra* in the summer and a seer of cotton if any is grown on the well. He also takes a *bijrai* at sowing, which varies greatly in different estates, and a *topa* for each new well rope, of which there are six in the year. He is allowed also a *kiari* of both green wheat and of barley.

The wages of other menials are calculated on those of the carpenter. The potter takes the same, less the *bijrai*, and charges for the rope. He is a depressed creature; and, since his work is not usually so urgent as that of the carpenter, is treated with far less respect than is the latter. The tanner who supplies blinkers and the leathern thongs of the wooden forks and other instruments is paid half what the potter takes. In theory, the blacksmith is entitled to the same amount, but blacksmiths are few in number, and usually the farmer takes his broken tool to the forge and pays in cash or grain for its repair. The barber usually contracts with the owner to shave the *belis* periodically, and is regarded as entitled to the same payment as the blacksmith, and the lambardar's servant or *kotwal* gets 2 *kiaris* of green wheat and barley. Reaping and winnowing are paid for out of the *virsa* of the *belis*.

Menials in the *Kachchhi*.

Almost invariably the menials are paid in the *Kachchhi* in the same manner and at the same rates as those in the Thal. The only difference is that in certain parts where holdings are large, and there is an unusual amount of *sailab* cultivation, the resident owners, tenants and labourers are unable to harvest the whole of the crops and casual labour

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RENTS, WAGES, PRICES AND MATERIAL CONDITION OF PEOPLE.

Other Expenses.

has to engaged for harvesting and threshing. The traditional wage taken is one sheaf in twenty and one-fortieth of the threshed grain.

Normally, a well is cleaned out by professional well-sinkers every fifth year, but the period and expense alike vary greatly, and, especially in the Thal, the owners themselves frequently empty the well and remove earth and broken shards. When professionals are employed, they are paid in grain and food. The rates are Re. 1 a day and food calculated on a rather generous scale to the headman, and half as much to his assistants, who average four in number.

The shearers, who are important people in the Thal, are paid in kind at rates which have not changed since settlement.

KOT ADU TAHSIL.

Kot Adu Tahsil.

Each yoke requires the attention of an able-bodied man, whether he be an owner or farm-hand. A hired man is generally paid in grain, with a small monthly sum of cash for pocket money and an annual suit of clothes. The people estimate his wages at about Rs. 100 a year. This is rather high; and, though in Kot Adu a labourer gets more than in Leiah, his total receipts are not above Rs. 85 a year. A detailed discussion of the cost of well irrigation is given for Leiah, and is generally applicable to this tahsil also.

Menials and Other Expenses.

The expenses of cultivation which affect the owners' share of the produce are threefold—

The payments made to the persons who keep in order the agricultural gear and instruments of the cultivators; the carpenter, potter, tanner and blacksmith have to be paid, whether the cultivator is an owner cultivating with his own hands, or by those of hired men, or is a tenant, and those four menials take a part of the produce of every holding in the district. Except in the Thal, where, as would be expected from the more onerous conditions, payments are rather higher, they almost everywhere receive the same amount, which is invariably in grain, and calculated on the yoke.

The carpenter is the most important menial, whose presence is very necessary if some accident happens to the wheel, and he takes rather more than anyone else. He receives from the rabi harvest—

(1) 5 *topas* of wheat (22½ seers) for each yoke in land irrigated by a well, or 4 *topas* of wheat (18 seers) in *nahri* or *sailab* land;

(2) 2 *paropis* of wheat, about 2 seers for every time a new rope is fixed in the well, which is done usually five times in the year. He is also given his food while employed on his work; and

(3) a *birjai* of 2 *paropis* at sowing for each yoke.

From the kharif harvest he gets for each yoke—

(1) 2 seers of cotton if sown in well land, or 1 seer in *sailab;* and

(2) 2½ topas of *bajra* and 5 *topas* of unhusked rice, or 10 *topas* of rice if no other kharif is grown or 5 *topas* of *bajra* if no rice is grown.

The potter in well land gets the same as the carpenter, without the *bijrai*, and charges for the rope. The blacksmith is supposed to get half as much as the potter, but, in practice, the farmer usually takes his broken tool to the forge, and pays for its repair in cash. The tanner who supplies and repairs the leathern splices of the forks and other tools and the blinkers of the well bullocks gets ⅓rd as much as does the potter.

When the owner cultivates through tenants, he has to employ a weighman *(dumbir)* to divide the produce, who gets 1/64th from the common heap. He also hires an old crone or other watcher to sit by the heap, and to prevent pilfering by the tenant, in return for 1/32nd of the produce. The camel-man who removes the produce to the landlord's granary has also to be paid, but usually is a stranger who charges by the job if the landlord does not use his own camels.

When the harvest is a wide one, hired men have to be entertained to help in the reaping and threshing. These are seldom employed by the small holders, except for rice, which has to be off the ground as soon as possible to allow for the gram sowings. The work is done mostly by people from the Leiah Thal who migrate to Kot Adu during September, and take 1/13th of the crop for their trouble. Most of the other crops are got in by the cultivators themselves and by their servants and dependants, except the wheat, of which a good deal is cut by hired labour at 1/30th. For the threshing of all crops 1/60th is charged, but much is not done by hirelings.

Beggars, holy bodies of every faith, the village barber and the lambardar's servants swarm round the threshing-floor, and demand and receive a trifle.

MUZAFFARGARH TAHSIL.

Muzaffargarh Tahsil.
Expenses of Cultivation.

Of late years the upset caused by the war coincided with pestilence, cattle sickness and a succession of bad seasons. Prices have been very high, though sellers were few and buyers many, and during the past five years owners, to keep their lands in cultivation, have been compelled to be liberal in allowances to their tenants, and in the rents which they have actually taken. Nowhere, however, have the recorded

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rents changed, and such evidence as there is is that the expenses of cultivation normally absorb no larger share of the produce than they did at settlement. The dues to the carpenters and other well menials, those of the reapers and threshers, all of which are paid in kind, are the same as at the first regular settlement. In places along the railway and near Multan City labour has to be paid for in cash, and at considerably higher rates than elsewhere in the district, but this is no new thing, and only affects a very small number of the cultivators of the tahsil. Taking good and bad seasons together, expenses are not different from what they were fifty years ago, except that the substitution of light occupiers' rates and departmental management of the canals for the old system of forced labour must have lightened the work, though probably not the expenses of the ordinary small holder.

Dues to Menials.

There are three classes of menials—

(1) Those responsible for the unkeep of the well-gear and tools of the holding, who are the carpenter, potter, blacksmith and tanner. These receive a fixed amount of produce, which varies from village to village according to the crops grown in each, but does not change from harvest to harvest. A typical payment to the carpenter, on whose dues those of the others are calculated, is—

Kharif—2½ *topas* (1 *topa* = 4½ seers) of *jowar* or *bajra*, and

5 *topas* (one *topa* = 3¼ seers) of unhusked rice; and

2 seers of cotton if grown; and

Rabi—5 *topas* (1 *topa* = 4½ seers) of wheat.

He also takes a *bijrai* of two *paropis* (about 4 seers) of wheat for his service at each sowing, and as much for fitting on the slats each time a new rope is bent to the wheel, which is done perhaps four times in the year. He thus gets in all for each yoke—

Bajra.	Rice.	Cotton.	Wheat.
11¼ seers ..	16¼ seers ..	2 seers ..	42½ seers.

The potter gets the same as the carpenter, without the payment for the plough and the rope, with which he has no concern, and so takes only 22½ seers of wheat.

The tanner and blacksmith each take half as much as the potter. In practice, blacksmiths are few in number, and

the farmer takes his broken tool to the forge, gets it mended and pays for it in cash.

This class of menial takes for each yoke in seers—

—	Bajra.	Rice.	Cotton.	Wheat.
Carpenter ..	11¼	16¼	2	42½
Potter ..	11¼	16¼	2	22½
Tanner ..	5⅝	8⅛	1	11¼
Blacksmith ..	5⅝	8⅛	1	11¼
Total ..	33¾	48¾	6	87½

(2) The second class of menials are those employed by the landlords to protect their interests against the tenants, and are the watchman and weighman, who are paid a share of the produce, which is recorded as 2 *topas* in the *path*, or 1/128th.

(3) The third class of menials are the hired men who help in the reaping, threshing and winnowing. The reapers get 1/13th of the rice which they cut, and nominally 1/40th of the other crops, but actually more, since the reaper's sheaf is proverbially far larger than the others, and, in practice, is as much as he can carry away. The thresher gets a *pai* in the *path*, or 1/64th, and the winnower 6 *topas* in the *path*.

Crops such as *bajra* and *jowar*, which are grown for the men who work on the wells, are, however, cut by the cultivators themselves; so too is the barley which ripens, and is reaped at a time when the farmers have leisure from other work. The rice is harvested when the wheat ploughings are in progress, and it is important to get the crop off the ground as soon as possible so that gram or peas may be planted in the stubble; in these circumstances, outside help is usually required. The only other crops which are largely cut by hired men are the *sailab* wheat and gram, of which the area is too large for the small resident population to reap the whole of it.

As regards the threshers and winnowers, the threshing is done with the well oxen, for each yoke of which a man has normally to be kept permanently, whether he be owner, tenant or labourer. Extra oxen are not hired for the threshing so there is no need of extra men. Winnowing also is done, except in a bumper year, entirely by the permanent staff of the holding. The proportion of the crop which normally is

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paid to these labourers is very small. Grain in small quantities is also paid to the lambardars' servants, to the holy bodies of every sect and to the beggars who throng the threshing-floor. The expenses allowed for cane and indigo are the same as they were at the previous settlement; cotton picking costs about 1/12th of the crop.

ALIPUR TAHSIL.

Alipur Tahsil.

At the time of the installation of a new tenant the owner is responsible for seeing that the well-gear and tenant's house and cattle-shed are in proper order; the cost is met out of the ordinary share of the produce, from which the expense of the periodical cleaning of the well is also paid. For the upkeep of the well and other agricultural gear a share of the produce, or more usually a fixed amount of grain for each plough in use, is set aside before the division of the heap and paid to the carpenter and potter. The reapers, threshers and other labourers whose work varies with the amount of produce receive a fixed share of the grain. These expenses, as declared by the people, approximate to 18 per cent. of the total produce on well lands and 16 per cent. on flooded lands.

Class of Persons working as Labourers.

The persons employed as farm servants do not belong to any particular class; where there is a family of several sons, some will stay at home and cultivate the family land, while the others go out as farm servants. People of all castes become labourers. Many of the proprietors and tenants are also field labourers; sweepers, washermen and weavers also supply a number of field labourers. It cannot be said that field labourers are in a condition distinctly inferior to that of the poorer agriculturists who cultivate holdings of their own; those hired by the year or by the half-year are paid monthly, and have no need of an account with a village trader. The poorer agriculturists often go out as field labourers. Those field labourers who are hired for the job as winnowers, cotton-pickers, reapers and indigo-churners are paid at once, and have no need to go to the village trader. On the whole, the field labourer is better off than the poorer agriculturists.

Day Labourers.

The class of day labourers is composed mainly of wandering families of Pathans, temporary immigrants from Khurasan or Marechas who come from Bikaner. The Pathans, called powindahs, enter the district at the beginning of the cold season, and, having stayed on through the winter and the rabi harvest, return to their houses for the summer. Such labourers are generally paid in cash according to the amount of work done by them.

Labour Centres.

There are no large labour centres in the district.

Price of Labour

Table 25 in volume B shows the price of labour generally.

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Prices.

Table 26 in volume B shows the price at headquarters on the 1st January in each year of the principal grains. Prices have risen considerably in recent years.

Incidentally, it may be remarked that the sanctioned prices are very low; for this there are three reasons: first, the lack of communications throughout the greater part of the district, and the expense of moving crops by camel. Two camels cost a little more a day than one cart, but move about half as much. Secondly, the inferior quality of much of the crops, since there is still, as there was at last settlement, a great difficulty in obtaining pure unmixed seed. The wheat, in particular, is usually of several varieties in a single field, even if not mixed with barley. Thirdly, the great body of the producers are so bound by debt that they cannot deal in the open market, or get the prices there current. Their sales take the form of book adjustments, in which prices are fixed by the creditors; this is not tyranny on the part of the latter, but the way in which they are compelled to finance holdings of which the value as security is next to nothing. This system of finance works harshly whenever prices are changing rapidly, and the creditors attempt to protect themselves from loss, either by refusing credit altogether, or by granting it on unusually severe rates of repayment. The general result is that market prices are only obtained by the Hindus and by the most wealthy of the Muhammadan magnates; the ordinary man is compelled to accept from 20 to 50 per cent. less according to the nature of his security and need for ready money.

Weights and Measures.

The scale of linear and square measurement in use in the district is a convenient one because it corresponds with the English measures—

Linear Measure—2 paces ($5\frac{1}{2}$ feet) make 1 *karam;* and 1 *karam* square is *sirsahi*, which gives the unit of local square measure;

Square Measure—9 *sirsahis* = 1 *marla* = 1 pole; 20 *marlas* = 1 *kanal* = $\frac{1}{4}$ rood; 4 *kanals* = 1 *bigha* = $\frac{1}{2}$ acre.

Grain in the towns is measured by the Government maund and its fractions, the seer and chatak. The villagers, however, compute grain by measure, not by weight. The measures are as follows:—

4 *paus*	make	1 *paropi*		4 *pais*	make	1 *chauth*,	
4 *paropis*	,,	1 *topa*,		4 *chauths*	,,	1 *bora*,	and
4 *topas*	,,	1 *pai*.		4 *boras*	,,	1 *path*.	

The *path* being a measure, and not a weight, the weight of grain obtained in it fluctuates of course with the nature of the grain measured by it. Also, like most rustic

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measures, it varies somewhat in size in different parts of the district; but, roughly, it weighs from 27 to 30 maunds (the maund of 80 pounds). Other articles are measured by the maund and its parts. There is no *kachha*, or local, maund in use in the district.

Material Condition of People.

The condition of the agriculturists has been dealt with under the heading "Indebtedness," which may be referred to in chapter II-A. With the exception of the small number of Government servants—patwaris, canal employees, police and the headquarters staff of the sub-division and the tahsil—who are mostly foreigners from the Punjab, the entire population is directly dependent on the land for its livelihood, either as growers of, or as dealers in, agricultural produce.

In the ordinary house the furniture consists of articles of basket-work and earthenware, beds made of wood and rope very carefully woven from date leaves or bulrushes, or, more rarely, of camel's hair; a box, with lock and key, to contain records and any articles of value; and a small earthenware granary for the grain taken at seed-time from the dealer. Foreign cloth of a coarse kind which resembles *khaddar* is worn largely by the peasants for turbans, shirts, *chaddars*, etc. It is mostly made in Japan. But peasants seldom own more clothes than those on their backs. Foreign cloth of better qualities is used by people who are better off. The women all use chintz and muslins for skirts, drawers, shirts and sheets, but such clothes are usually kept for festive occasions. Indeed this is one of the extravagances of the zamindar—his women's clothes. The poor people have hardly any clothes to wear, and warm themselves with fires. Fuel is fortunately plentiful. Ornaments are almost all of silver. Enamelled and aluminium cups, tumblers, etc., are sometimes found in peasants' houses. The crude tin burners consuming kerosene oil are usually met with, but lanterns are also in use. Matches have come to be looked upon as a necessity, except in the Thal, where people can still do without them, and are quite content with producing fire by rubbing a cotton stick against *akk* (Calotropis procera) roots. The middling and clerical classes are making rapid progress. A small table or a teapoy and a few chairs will often be found among a munshi's furniture, and a china, enamelled or aluminium plate with a cup and tumbler to match, a kerosene oil lamp or a lantern are essential articles. His dress consists of nothing but fine cotton or fairly good, though cheap, woollen cloth. Oftener than not, he wears shoes of English pattern, and, if possible, of English make. The use of soap, comb and brushes and the like shows distinctly an advancing standard of comfort. The well-to-do zamindars are not lagging

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behind either. Their dress has improved greatly, and the use of imported and expensive articles is common. English saddles, English harness, traps, English guns and rifles are used largely, and the furniture of their houses includes a number of comparatively valuable things which some years ago were considered unwarranted luxuries. The style of houses in towns and large villages is improving. More attention is paid to ventilation, and masonry houses are incresing in number. The few rich men have substantial brick-built houses. They invariably travel by motor lorry and train. A few keep their own cars or tongas. In short, the conditions of well-to-do zamindars and of townspeople of middling means show unmistakable signs of progress. The poor live in dwellings of mud and thatch which, though liable to destruction by fire, are excellently suited to the hot dry climate.* They are raised in lands liable to floods on mud platforms above the normal flood-levels. The landless labourer is by no means badly off. Labour is not so cheap, and the artisans can earn enough to lead quite a comfortable life. The unskilled labourer does not get on so well, and his condition is about the same as that of a poor cultivator—perhaps a little worse.

Food.

Meals are taken in the morning and evening, and are of the simplest kind. Meat is unknown, except to the rich, who consume large quantities of game shot or caught without regard for close seasons. Fish is eaten by Muhammadans freely. The flesh of crocodiles and pigs is eaten by tribes lowest in the social scale—Mahtams, etc. The usual diet, however, is vegetarian, consisting, apart from chillies, milk and a small quantity of green vegetables, of wheat in the months from May to September, and from October to April of rice, *bajra*, *sanwank* and *moth*. Dates, which ripen in July, form an important addition to the diet, especially of the poorest classes, who in years of great scarcity grind the stones down to flour. The root of the lotus and a number of wild berries are eaten in their season.

Relief Measures.

The question of ameliorating the condition of the district has recently been examined fully by Government, and its resolution No. R.-5862, dated the 5th December 1928, which is so important for the district, is reproduced in full below:—

Resolution of Government for improving the District.

*Punjab Government resolution No. **R.-5862**, dated the 5th December 1928.*

On the 9th May 1928 the Punjab Legislative Council passed the following resolution:—

"This Council recommends to Government to give effect to the recommendations embodied in Mr.

* See also chapter 1-C.

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Anderson's report regarding relief for the residents of the Muzaffargarh District."

2. In 1924 a resolution was carried in the Legislative Council recommending Government to take in hand measures to reduce the debt in the district, and in 1926 another resolution was passed recommending that measures be adopted to ameliorate the condition of the district. In pursuance of that recommendation, Mr. J. D. Anderson, who had recently conducted the revision of the settlement in the district, was deputed to make an enquiry, and his report,* which was written in 1926, contains a survey of the district, and its "uneducated population pressing heavily on crops of which more than half are insecure," followed by an examination of the more "obvious ways" by which an attempt can be made to improve the district, *i.e.*—

(*i*) by emigration, to reduce the pressure on the land;

(*ii*) by education, to make the people more adaptive and self-reliant;

(*iii*) by co-operation, to provide a less onerous method of financing agricultural operations; and

(*iv*) by improving the water-supply, to give a greater stability and certainty of crop production and a higher standard of living.

Mr. Anderson himself confesses that "his report deals rather with the difficulties of progress, than with hopeful measures of relief," but he emphasizes that, if the material conditions of the district are to be improved, improvement in irrigation must go hand in hand with a scheme to alleviate the existing burden of debt. In his opinion, controlled irrigation is the chief method, preceded by an attempt to compound the liabilities of the countryside and to transfer them to mortgage banks. Though Government is unable to accept all Mr. Anderson's conclusions, it considers his report to be a valuable contribution to the study of the special problems of the district.

3. The debate in the Legislative Council of the 9th May last provoked some discussion on the place of the moneylender in the rural economy of the district; but, beyond showing a general distrust of any attempt at a drastic *seisachtheia*, the debate mainly served only to emphasize the complexity of the problem and the duty incumbent on different departments of Government to pursue or initiate practical measures in dealing with it.

The problem of relieving the district of its embarrassments and infirmities has been engaging the continuous

*Referred to in chapter II-A.—"Indebtedness."

attention of Government; Government has now arrived at decisions in pursuance of which action is being taken.

(*a*) *Irrigation.*—Mr. Anderson advocates "controlled irrigation," and regards as impossible any improvement in the supplies of the existing irrigation canals. It is much to be regretted that the experts are not yet able to evolve any scheme for completely controlled irrigation, except in connection with the Haveli Project. Some delay is likely to occur before progress can be made with the latter. However, a survey at a cost of 5 lakhs of rupees has been approved, and is being undertaken. In the meantime, "uncontrolled irrigation" can be made more satisfactory by improvements of the inundation canal heads and by improvements in methods of distribution. A scheme has been prepared to these ends, and adequate funds have been sanctioned. The average annual expenditure during the past quinquennium on the Muzaffargarh canals under heads "55—Capital" and "XIII (*a*)—Irrigation Works" has been—

Works.	Estensions and Improvements.	Maintenance and Repairs.
Rs.	Rs.	Rs.
57,060	50,794	3,01,736

The Irrigation Department has schemes under consideration for new works in 1929-30 involving the expenditure of 1¾ lakhs on the remodelling of the Indus Canal System.

Government is convinced that, by constant attention to all the features of uncontrolled irrigation, as, for instance, intakes, regulators, escapes, distributaries and outlets, substantial amelioration in present conditions can be secured, and will devote constant efforts to achieve it.

It has also been decided that a canal advisory committee, with a definite constitution and definite functions, should be set up. The committee will consist of officials and non-officials, half the non-official element to be elected by the district board.

(*b*) *Medical.*—Curative and preventive medicine is of special importance in this district, parts of which are notoriously unhealthy. Eleven hospitals and dispensaries are maintained by local bodies, and six of the nine rural dispensaries which were to be opened in connection with the 1925 scheme for the expansion of medical relief have been opened. It has now been decided by the Ministry of Local Self-Government to provincialize the district headquarters hospital

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at once, and, in considering the question of provincializing hospitals at tahsil headquarters, some preference, in order of urgency, will be given to the Muzaffargarh District. An additional rural dispensary has been sanctioned by the Ministry for Khanwah, where malaria is specially prevalent, and the full number of dispensaries for the district will be completed at an early date.

(c) *Public Health.*—In addition to the regular staff, the Ministry of Local Self-Government has decided that two additional sanitary inspectors will be added to the existing district staff, and a special public health grant will be made for combating fever and relieving disabilities.

(d) *Education.*—Substantial progress has been made in recent years. The number of schools of all kinds in the district is now over 400, being 100 per cent. increase in the last 5 years, and the number of children at school has risen from 11,000 to 27,000. Three urban and 48 rural areas are under compulsion, and Government has recently provincialized three high schools. Two popularize service in the district, Government has recently opened in the district two training institutions for vernacular schoolmasters for the Muzaffargarh area. The district board grading for the grant to cover approved expenditure is 70 per cent. It has now been decided by the Ministry of Education to raise the grading of the district from 70 per cent. to 80 per cent.

(e) *Co-operative Societies.*—Several suggestions have been made by Messrs. Anderson, Strickland and others to remedy the indebtedness in the district: (*i*) the funding of agricultural debt by the method of definition and termination of all outstanding accounts; (*ii*) the setting up of an authoritative committee to organize and supervise informal local panchayats at selected centres whose business it will be to effect settlements of accounts, and, where possible, arrange for mortgages under the Land Alienation Act, through the by Government, and, with the aid of semi-co-operative grain agency of a semi-co-operative mortgage bank to be financed stores to be managed by Government, to facilitate payments in kind; and (*iii*) mortgage banks proper, official or co-operative.

Co-operation in Muzaffargarh has had a somewhat chequered career, and after two decades of work has under 200 societies with a working capital of under 3 lakhs. The village bank has yet to be firmly established. The Ministry of Agriculture has decided that, *pari passu* with increased attention to the village bank, one mortgage bank should be opened, and that a scheme should be prepared for a necessary number of co-operative grain banks. The best efforts of the department will be concentrated on solving the problem of

the right type of co-operative relief for the economic depression in the district, with its special features needing specialized treatment.

(*f*) *Agriculture.*—A district demonstration farm has been sanctioned to be located at Khangarh. It is the Ministry of Agriculture's desire that increased attention should be paid by the Department of Agriculture to the needs of the district generally, and particularly towards the growing and marketing of dates. The Ministry of Agriculture will also examine what improvements are possible in the fisheries of the district, and in the breeding of cattle and buffaloes. Enquiry will also be made into the question of communications.

(*g*) *Colonization.*—Government has decided to allot 100 squares in the Nili Bar Colony to selected colonists for Muzaffargarh as an experimental measure, *i.e.*, to see if the Muzaffargarh peasant makes a good colonist. Hitherto the population of Muzaffargarh has not been in the habit of moving out to other districts, or seeking employment as a tenant or in other capacities in a new environment. If the Muzaffargarh peasant proves that he can make good as a colonist, the question of allotting a further area will be considered, more especially to relieve congestion in the central tahsil. In the district itself there are 23,000 acres of culturable land in the rakhs and elsewhere. The possibilities for cultivation in the rakhs and other culturable waste lands are being explored.

(*h*) *General Administration.*—Service in the district has hitherto possessed nothing in the way of attraction, and the district staff has accordingly suffered. Muzaffargarh needs experienced and expert staff. His Excellency the Governor in Council, and acting with his Ministers, has decided that specially selected officers in all departments be posted there, and should stay there long enough to show their work. Good service in the district will be reckoned as a distinction in the record of officers. The problem of making up leeway in the district is recognized to be no less difficult, and in many ways of far greater importance, than the question which confronts the various branches of the administration in the more fully developed districts of the province.

These are the main directions in which the efforts of Government to improve the condition of the district are being concentrated. Government recognizes that they will require the constant attention of picked staff for some years to come. It is confident that the labours of this staff will at some time evoke the active co-operation and assistance of the leading men of this district for the benefit of which these special measures have been devised.

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SECTION C.—FORESTS.

FORESTS.

Forests.

The total area of Government forests (rakhs) in the district is 515,009 acres, of which 24 rakhs, measuring 48,564 acres, are under the management of the Forest Department, the remaining 62 rakhs, with a total area of 466,445 acres, being under the charge of the Deputy Commissioner. None of the forests is reserved, but those under the Forest Department are protected forests, under section 29 of the Indian Forest Act, XVI of 1927.* The legal position as regards these protected forests is very unsatisfactory as no rules under section 32 have yet been made by Government. In 1907 the matter was left over until the next settlement, and then it appears to have been overlooked, and later again dropped. As a result, people charged with trivial forest offences have to be dealt with under the Indian Penal Code.

Rakhs under Forest Department.

Of the 24 forests under the Forest Department, 9 poplar forests are now worked under a regular working plan drawn up by Diwan Ram Nath Kashyap, Divisional Forest Officer, Multan, for the period 1922-23 to 1946-47, and approved by Government.† These poplar forests are in a poor condition at present, but Rs. 5,000 per annum are being spent on them to improve the growing stock, chiefly by the eradication of *kana* and *kahi* grasses, which are dangerous for fires. After some years these poplar forests should become very valuable, chiefly for match manufacture, for which poplar wood is exceptionally suitable.

During the past few years the poplar forests north of Ghazi Ghat have been connected by tolerably good *kachha* roads which are motorable. A small rest-house has also been built at Ranuja, and has been connected by road with Mahmud Kot Railway Station.

Rakhs under Deputy Commissioner.

Some of the rakhs under the Deputy Commissioner, especially those near Muzaffargarh and Khangarh, are quite good firewood forests, and might perhaps be transferred to the Forest Department. When the projected railway line from Muzaffargarh to Alipur is constructed, most of the rakhs in these two tahsils will become paying property. Rakh Bet Ludda, near Ghazi Ghat, was transferred to the Forest Department in 1923,‡ and added to Rakh Qureshi, both these forming one protected forest called "Ghazi Ghat."

The following extracts from Mr. O'Brien's settlement report of the first regular settlement show how the rakhs in

*Notification No. 185, dated the 25th March 1907.

†Punjab Government No. 1817-Forests, dated the 16th January 1928.

‡Punjab Government No. 16992, dated the 8th June 1923.

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History of Formation of Rakhs, also those in Leiah Tahsil.

this district, other than those in the Leiah Tahsil,' were formed:—

"The Government waste land deserves mention here only to avoid misunderstanding. The district does not, like the other districts of the Mooltan Division, consist of a fringe of cultivation on the banks of the rivers enclosing vast tracts of waste land. I don't suppose that in the extra-Thal country, at any time within the memory of man, a block of ten thousand acres of waste land could have been discovered which was not intermixed with cultivation and habitations. In the Thal only one block of 113,613 acres could with difficulty be formed into a rakh, and even that includes cultivated land. The misapprehension referred to is the idea that this district is similar to Mooltan, Jhang and Montgomery with their immense inland tracts of waste land. One of the greatest administrative mistakes that was ever made, and the disastrous effect of which has only just been removed, was to direct the waste land and grazing tax in Muzaffargarh to be brought under the same system as that in force in the other districts of the Mooltan Division. Similar mistakes are constantly occurring. The total area of the Government waste, by the statements of the settlement just concluded, is 311,554 acres.

"As a part of the measurements, the Government rakhs were demarcated, and what had been a sore question since 1860 was finally decided. The demarcation of village boundaries was made, as has been stated, in 1856. It included within village boundaries all the waste land in the district. In 1860 Mr. Cust, then Financial Commissioner, declared the boundaries open to revision.* In 1861, in order to carry out this order, the Deputy Commissioner, with a pencil, marked off on the revenue survey maps pieces of land shown as waste to form Government rakhs; but no demarcation on the spot was made till 1879, when Lala Sohan Lal, Extra Assistant Commissioner, was appointed to carry out the work. This demarcation followed rigidly the pencil lines of 1861, and the result was that much cultivated land, *pakka* wells, village sites, graveyards, public roads, and even canals, were included in the rakhs. In 1874 a redemarcation was ordered. This has been carried out, and sanction was received to it in the correspondence noted in the margin. The area of rakh land is 311,554 acres. The Government rights in these have been secured, in almost every case unencumbered by the inclusion of popular rights. The rakhs have been excluded from village boundaries and made into new rakh villages. A regular settlement record has been made for each rakh the property

Secretary to Government No. 948, dated the 20th August 1877, to Secretary to Financial Commissioner; and Secretary to Government No. 685, dated the 1st June 1878, to Secretary to Financial Commissioner.

*No. 3342, dated the 24th July 1860.

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of Government. No claims to rights of entry on the retained rakh for any purpose, except a few old rights of way, were either made or admitted. Where rights of way existed, the roads have been shown on the rakh *shajra,* and have been mentioned in the *wajib-ul-arz.* If the road was a main road, and the right of way public, this has been recorded, and, if the right of way was restricted, the persons entitled to use it have been mentioned."

A separate record-of-rights exists for each rakh.

History of Rakhs in Leiah Tahsil.

Of the rakhs in the Leiah Tahsil, which are in reality little but grass preserves, eight have come down from Sikh times, some of them dating as rakhs from the time of the Jaskani rulers. When the country came under the Nawabs of Mankera, a series of military posts was established across the Thal, numbering 23 in all in the Leiah and Bhakkar Tahsils. For the subsistence of the garrisons it was necessary to take up blocks in adjoining land and form them into preserves for the supply of forage and fuel. These rakhs, however, never formed tracts surrounding a post, but always lay to one side, thereby leaving grazing on the other sides free to the peasantry. The British Government retained these preserves, and thereby conferred a very great benefit on the people. By strict closure for a month or two in the spring, and again during the rains, when the grass is growing, they become reserves of great value when the common pasturage is exhausted. It is feared, however, that the contractors observe no closure, and it is difficult at present to stop this.

British Government retained pre-existing Rakhs.

Demarcation of Boundaries in the Thal at 1878 Settlement.

At the 1878 settlement the question of the grazing assessment and *tirni* arrangements became involved with the demarcation of boundaries in the Thal waste. Hitherto, the Thal waste generally had been regarded to a certain extent as the property of Government. At the same time, certain bodies of zamindars had exclusive rights to sink new wells in almost all parts of the Thal, except the Government rakhs. On the other hand, there were no exclusive rights of grazing, and both residents and outsiders grazed their animals freely all through the Thal, regardless of the so-called village boundaries. The Thal boundaries of villages lying partly in the Thal and partly in the *Kachchhi* had been demarcated by the revenue survey in 1856-57, but the remaining villages had been left untouched. In about 1864, in accordance with a general order issued by the Commissioner for the whole district, the supposed boundaries of most of the remaining Thal villages were laid down by the patwaris, and rough *thakbasts* were made. At the 1878 settlement the whole question was elaborately discussed. The proposals made, the conclusions arrived at and the reasons therefor are

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set forth at page 260 *et seq.* of Mr. Tucker's "Settlement Report" to which the reader is referred for fuller information.

In brief, it was decided—

(1) to respect absolutely the village-to-village demarcations of the Thal *Kachchhi* estates made by the revenue survey in 1856-57;

(2) in the case of those Thal estates not demarcated by Captain Mackenzie, where the subsequent demarcation did not give the village an excessive amount of waste, or, in other words, where the estates were small and there were many wells, then the whole of the waste was to be allotted to the estate, the same boundaries being adopted, or only slightly altered and simplified; and

(3) in the case of the large Thal villages, to cut these up, as far as possible, into separate *dakhili mauzas* of about the same size as the smaller Thal villages mentioned above. After so doing, the intervening blocks of waste would be formed into Government rakhs.

The principle followed was that, subject to the above rules, allotments of waste land were made at fixed rates in proportion to the cattle of each village which were enumerated. The excess waste became Government rakh, while each village acquired the allotted waste in full propriety, and could exclude outsiders from grazing therein. Since Government and the village proprietors had hitherto had concurrent rights in the Thal—the zamindars being entitled to exclude outsiders from sinking wells, while Government could permit outsiders to graze within—this demarcation partook of the nature of a partition.

The scale on which these allotments of waste was made was—

Camel and horned cattle, per head ..	$12\frac{1}{2}$ acres = 5 shares.
Sheep and goats, per head ..	$2\frac{1}{2}$ acres = 1 share.

In the Leiah Tahsil no special allotments were found necessary since the original *mauza* boundaries were much more clearly defined than in Bhakkar, and were generally retained, no new rakhs being formed, except in disputed border tracts.

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Five new Rakhs formed in 1878.

As a result, five new rakhs were formed at this settlement, with an area of 103,705 acres, and some of the old rakhs were slightly enlarged. A few wells were unavoidably included in the new rakhs, and some existed in the old Sikh rakhs; these were assessed to land revenue in the ordinary manner, while for grazing purposes they have been included in those *mauzas* to which by position they naturally belonged, or to which they had been previously attached before the new rakhs were formed. The proprietors of these wells are allowed to graze their cattle within a definite area of 300 acres close to the well all the year round, but beyond these limits they come under the general rakh rules as regards grazing fees and close seasons.

Rakh Khokharwala.

The only rakh in the *Kachchhi* is Rakh Khokharwala, which consists of two separate plots, the total area of Government property being 166 acres, while 1,394 acres are privately owned. Of the Government area 150 acres have been given on lease for cultivation for 20 years or the duration of settlement to Gosain Gobind Ram, and the remainder, 16 acres, is waste (creeks, etc.). The lessee pays *malikana* at the rate of 12 annas per rupee on the land revenue.

The Thal Rakhs (Leiah) Lease System.

The remaining twelve Thal rakhs are leased to contractors nominated by the Deputy Commissioner from the leading lambardars of the adjacent villages. The leases are renewed from year to year, but usually the same persons remain for long periods. The demand is fixed for the term of settlement, and each village participating has a fixed share in the contract. Subject to the Commissioner's control, the Deputy Commissioner has power to remit part of the demand when circumstances render relief necessary owing to drought or murrain. Fines used to be levied on all cattle found grazing in the rakhs during the times of closure, and were appropriated by the contractor. Later, the fine system was abolished, and trespassing cattle are taken to pounds. The plough and well oxen of adjacent villages are allowed to graze free of charge, except during the close season. The grazing rates vary, but the usual scale is—

		Rs.	A.	P.	
For 6 months	Horned cattle ..	0	1	0	per head
	Camels ..	0	2	0	„
	Sheep and goats	1	0	0	per 100.

The scale of fines was uniform, and at the rate of—

	Rs.	A.	P.	
Horned cattle	0	1	0	per head
Camels	0	2	0	„
Sheep and goats	1	0	0	per 100.

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Rates in other Tahsils.

The grazing rates in the other three tahsils are as follows:—

		Rs. A. P.	
For 6 months	Male buffaloes	0 4 0	per head
	She buffaloes	0 6 0	„
	Calves up to 1½ years	Free	
	Horned cattle	0 3 0	per head
	Calves up to 1 year	Free	
	Sheep and goats	0 0 6	pet head
	Kids up to 4 months	Free	
For 12 months	Male camels	1 0 0	per head
	She camels	1 8 0	„
	Calves up to 1½ years	Free	

List of Rakhs.

A list of rakhs under the charge of the Forest Department and the Deputy Commissioner is given below:—

Rakhs under the Forest Department.

No.	Name of rakh.	Area in acres*.
1	Sohni	692
2	Dandewala	931
3	Ranuja	1,329
4	Isanwala	6,986
5	Ghazi Ghat	2,117
6	Bakaini	1,997
7	Bet Mir Hazar Khan	1,294
8	Chhina Malana	4,180
9	Bet Diwan Sahib	3,165
10	Dhaka	2,302
11	Khanwah	1,695
12	Ghiri	1,313
13	Latti	716
14	Khiyara	988
15	Parara	588
16	Damarwala Janubi	3,069
17	Sarwani Bela	1,566
18	Khudai	2,542
19	Jhalarian	1,995
20	Alipur	1,319
21	Aliwali	4,629
22	Makhan Bela	942
23	Jalwala	1,023
24	Alipur Tofa	1,186
	Total	48,56

*NOTE.—The areas shown are taken from the revenue records. They differ slightly from those supplied by the Forest Department.

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Rakhs under the Deputy Commissioner.

No.	Name of rakh.	Area in acres.
1	Thalwali	113,638
2	Patti Siyal	5,457
3	Ahsanpur	2,446
4	Tibba	13,459
5	Pattal Kot Adu	7,436
6	Parhar Sarki	3,041
7	Kat	524
8	Drigh	1,933
9	Khanpur	56,071
10	Muhammad Bakhsh Kohawar	201
11	Ahmad Bari	330
12	Umar Budh	308
13	Saban Machhi	641
14	Kullewali	477
15	Ahmad Mohana	2,370
16	Bet Kaim Shah	1,278
17	Khulang Janubi	1,560
18	Bet Mir Hazar Khan	2,309
19	Thul Megh Raj	701
20	Khairpur Parha	1,014
21	Tibba Nur Gopang	712
22	Bakar Shah Janubi	2,341
23	Mohib Shah	628
24	Kohar Piran	538
25	Chandia	168
26	Langarwah	866
27	Missan Kot Bhoa	702

No.	Name of rakh.	Area in acres.
28	Khinani	720
29	Sultanpur	536
30	Sarki	558
31	Kotli Lal	603
32	Kotla Sadat	560
33	Kunnal Sandila	497
34	Hamzewali	2,303
35	Basti Arif	1,648
36	Bilewala	840
37	Mela Chacha	488
38	Manakpur	721
39	Chitwahan	477
40	Jarh Ratheb	358
41	Harpallo	460
42	Hussanpur Kacha	1,383
43	Jogiwali	809
44	Daira Wadhu	288
45	Bastijarh	887
46	Sarkar No. 23	1,398
47	Sadewahan	666
48	Dera Haibat	1,223
49	Kaudiwal	9,149
50	Jharkil	8,115
51	Tibbi Kalan	17,575
52	Fattehpur	8,402
53	Siwagh	14,099
54	Nawan Kot	20,236
55	Nawan Kot New	35,332

No.	Name of rakh.	Area in acres.
56	Khairewala	10,721
57	Khairewala New	34,113
58	Chaubara	16,924
59	Shergarh	26,647
60	Shergarh East	12,914
61	Shergarh West	12,086
62	Khokharwala	*1,560
	Total ..	466,445

*The Government area is now only 166 acres, the rest having been sold.

Table 27 of volume B shows the area of forests in the district.

Poplar Forests described.

A note on the poplar forests in charge of the Forest Department prepared by Diwan Ram Nath Kashyap, Divisional Forest Officer, Multan, is given below:—

(*a*) *Ghazi Ghat* (2,117 acres).—This forest is composed of the old Qureshi protected forest and Bet Ludda, an adjoining civil rakh. The forest is within 2 miles of Ghazi Ghat Railway Station, and is therefore most valuable. A branch of the Indus River and Ghuttu Inundation Canal passes through it. Out of the total area, only about 400 acres are wooded, 175 acres contain *shisham*, 50 acres mature crop of poplar and 175 acres are covered with poplar poles and saplings, out of which about 80 acres were felled in compartment 1 at the time of regeneration in 1922-23. The rest is covered with *kana* and *kahi* grasses mixed with a young crop of poplar obtained after the forest fire of February 1921. A belt of trees and poles exists round the Qureshi part of the forest, and this belt owes its existence to the narrow boundary line which was kept clear of *kana* grass in the past. The forest is surrounded by privately-owned lands, and therefore a sufficiently wide fire-line should be carefully maintained. The forest has been burnt almost every other year in the past. Private land along the eastern boundary contains a promising young crop of poplar, and may be exchanged with compartment 3, if possible; 43·32 acres under the Ghuttu Canal and the escape, where they pass through the forest, were transferred to the Irrigation Department—*vide* Government letter No. 392, dated the 20th July 1901,

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to the Conservator of Forests, Punjab—and another 18·91 acres—*vide* notification No. 180, dated the 22nd March 1907;

(*b*) *Sohni* (692 acres).—This forest is situated at a distance of about 5 miles to the north of Ghazi Ghat, and at a similar distance from Sheikh Ismail Railway Station in the east. The Ghuttu creek passes through it. About half the area is wooded, about 100 acres contain poles and the rest generally mature trees. A patch in the middle is occupied by *kikar* (Acacia arabica) trees, which species is freely spreading in several parts. There is a narrow belt of trees and poles almost all round the forest. The forest has been safe from fires since 1913, and forms a very good illustration to show that no great good is obtained by only keeping out the forest fires. About 50 acres in the east are very sandy, and therefore unsuitable for poplar;

(*c*) *Ranuja* (1,329 acres).—This forest is about a mile from Sohni towards the north and about 5 miles from Mahmud Kot junction in the east. The wooded area covers about 275 acres in all, out of which about 200 acres occur in the east. There is a belt of trees and poles all along the outer boundary. The forest was burnt in 1918-19, and there is a good deal of inflammable grass again. In 1921, as a fire-protection measure, *kana* grass was stubbed out from compartments 11 and 12, which, in conjunction with a re-entrant of cultivation, have the effect of dividing the forest into two main blocks. This operation of stubbing out *kana* from these two compartments is being repeated year after year, and a sum of nearly Rs. 900 has been spent on this work since 1921. The forest is generally dry, but gets some flood water through small creeks and from the Dinga *nala* running in the east of the forest;

(*d*) *Dandewala* (931 acres).—The forest is situated north of Ranuja at a distance of about 7 miles from Gurmani Railway Station in the east. About one-third is wooded, out of which some 200 acres contain an excellent crop of poles and trees. In 1907-08 the old crop was removed, presumably in clear fellings, leaving some standards; and the new crop, which is only 17 years old, is excellent for its age, the girth of the poles being 2 to 3½ feet. The greater part of the forest was burnt in 1920-21, and the young crop of poplar is very good in parts. Dandewala forest gets a very large quantity of flood water through the Maggi escape, Dinga *nala* and other creeks passing through it. With the exception of small sandy patches in the middle, the area is exceedingly suitable for the poplar. The bed of the Maggi escape, where it passes through the forest, is under the control of the Irrigation Department, and for extension of its embankments another 6·21 acres were transferred—*vide* notification No. 18496, dated the 6th July 1923;

CHAPTER II, C.

FORESTS.

(e) *Isanwala* (6,986 acres).—This is the biggest forest of the lot, though two-thirds are either under river action, or are otherwise unsuitable. Out of the one-third which has been taken up for regular working, only about 500 acres are wooded, nearly 100 acres bearing poles, and the rest mature and overmature trees, which are generally unsound owing to the damage done by forest fires. The best part of the forest, called Machhiwali, covering an area of 927 acres, was given up in 1903 by Government—*vide* their letter No. 117, dated the 14th March 1903, to the Conservator of Forests, Punjab—to the local landlord in exchange for land under the river bed. Several parts of the forest get flood water; others are dry. A plot 20 acres in extent, containing overmature trees, has been demarcated in the middle of the forest to show the size to which poplar can grow. The western boundary, being under the river-bed, is undefined, and it is probable that some forest land is occupied by cultivators on the right bank of the stream. Temporary cultivation should be encouraged in the waste land outside the area taken up for poplar. The forest is situated on the western side of Dandewala and at an average distance of about 10 miles from Gurmani Railway Station; 41·95 acres covered by the Ghuttu *nala* were transferred to the Irrigation Department—*vide* notification No. 153, dated the 12th March 1908.

Alipur Tahsil Forests.

The forests in the Alipur Tahsil are away from railhead, the nearest railway station being 40 to 75 miles from them:

(f) *Bakaini* (1,997 acres).—This is the northernmost forest in Alipur. Only about 300 acres are wooded; the rest contains either a young crop of poplar mixed with *kana*, or pure *kana* grass. The best part, which is flooded every year, is situated to the north and west of the Surab *nala*. The main forest being generally dry, except along the depressions, is poor, but several parts are likely to improve by protection from fire. The greater portion of the eastern part is dry and sandy, and unsuitable for poplar. In the past considerable damage has been done to the forest by fires, which have occurred almost every other year. The canal rest-house at Bet Wariyan is close to the forest.

The following areas were transferred to the Irrigation Department:—

	Acres.
(i) In 1889-90	13
(ii) *Vide* notification No. 263, dated the 19th April 1895	9·1
(iii) *Vide* notification No. 150, dated the 20th March 1901	19·13
(iv) *Vide* notification No. 480, dated the 17th October 1905	4·87

(*g*) *Chhina Malana* (4,180 acres).—This forest is situated about 6 miles to the south-west of Bakaini. On the whole, this forest is one of the best as the greater part of it is flooded every year. There are fine patches of trees, and also large tracts of good promising young growth awaiting protection from fire. The central part of the forest is generally dry and unsuitable;

(*h*) *Damarwala* (3,069 acres).—This is situated on the right bank of the Chenab about 2 miles away from the main stream. The eastern half contains poplar of all ages mixed with *kana* grass, generally open and unsound; the younger classes are stunted, whereas mature and overmature trees are mostly hollow and rotten. There is a belt of *kikar* trees of all sizes running along the east. From this belt *kikar* is spreading westward, and is slowly replacing the overmature poplar. The western half is very sandy, and contains mostly *kana* grass with stretches of young poplar, which is not likely to grow to any bigger size owing to the dry and sandy nature of the soil. About 700 acres in the west were burnt in 1916-17, but the rest of the forest has been safe for the last several years, in any case since 1910-11. The forest is situated about 6 miles east of Alipur;

(*i*) *Bet Diwan Sahib* (3,165 acres).—This is about 25 miles to the south-west of Alipur. Being within easy reach of the Indus, almost the whole of it was washed away in 1922 and 1923, except a portion of about 300 acres, out of which some 100 acres contain an open to canopied crop of mature trees, and the rest is covered with young shoots mixed with *kana* grass. Before the forest was denuded it contained extensive blocks of mature trees, and, being subject to annual inundations, was very suitable for poplar.

Other Forests described.

The following is a description of some of the forests under the charge of the Forest Department recorded by Mr. Browne, Deputy Conservator of Forests in 1877, by Mr. Shakespear in 1883 and by Sardar Sohan Singh, Extra Assistant Conservator of Forests, in 1923, and brought up to date. These descriptions are very interesting in certain cases as they show the changes that have taken place in the tree growth of these areas.

(1) *Sarwani Bela* (1,566 acres).—Extremely little vegetation on the rakh, a few scattered *jand* trees towards the north end, but hardly a bush on the south end. Soil *kallar*.

1877.

A block of three forests close to the west bank of the Chenab about 8 miles south of Rangpur. Under the department since 1878. Cattle are only allowed to graze from then. Very

1883.

CHAPTER II, C. — FORESTS.

poor stock of material; soil improved by silt. A little *Prosopis* is found, chiefly along the west boundaries near the Thal.

23 and later. About 450 acres are covered with a canopied forest of *kikar* and poplar; the former is about 20 years old, and the latter of all ages, with a good number of mature trees which can be removed as they are standing over advance growth. There are a few glades which are generally full of root-suckers of poplar or *kikar* seedlings.

1877. (2) *Khudai* (2,542 acres).—Very sparsely wooded with *jand* and *pilchi*, many large blanks along the Thal and towards west *pilchi* predominate; on a few spots a good deal of *jand*. Soil *kallar*.

1883. A block of two areas half-way between Langar Sarai and Rangpur about 12 miles from each, and close to the right bank of the Chenab. Soil very poor above the high bank, and growth very light. Fringe of *Prosopis* on the Thal side. *Tamarix* of the smaller species predominates. *Kikar* (Acacia arabica) thrives in the *Kachchha*. Under the department since 1869. Camels, goats and sheep excluded from 1878. Cattle of neighbouring villages graze on lease.

1923 and later. About 30 acres are covered with a canopied crop of *kikar* and *jand*. *Kikar* requires thinning.

1877. (3) *Jhalarian* (1,995 acres).—A good deal of *jand* on the north-east of the rakh, but to the west and south scarcely anything but *pilchi*. A few date-palms, also *Salvadora* and *Pataki*.

1883. On the south of, and close to, the above block, also near the Chenab. Poor soil and growth of *Tamarix* (small). *Prosopis* on the Thal side, and *Tamarix* (large) here and there. Under the department since 1869. Closed to camels, goats and sheep from 1878. Cattle graze on lease.

1923 and later. About 300 acres are covered with open to canopied crop of *kikar* in places mixed with *jand* and young poplar. Some parts of *kikar* require thinning, and others are ready for regeneration. Previous sales of fallen trees have resulted in illicit cutting of young standing *kikar* and creation of gaps which are generally full of young seedlings requiring protection.

The temporary cultivation which was permitted in previous years, and which was stopped last year, has apparently increased the sizes of glades.

The following notes were recorded by Sardar Sohan Singh, Extra Assistant Conservator of Forests, in 1923 for some of the rakhs, and have been brought up to date:—

(4) *Alipur Tofa.*—Very poor quantity of scrub forest; gives no revenue besides the small sales of *munj kana* and grazing permits. Not worth being retained.

(5) *Jalwala.*—At a distance of 4 miles from Khangarh. Poor class of forest of *jal, pilchi* and *jand*. *Pilchi* forms the major portion of the crop. Being close to Khangarh, there are possibilities of its yielding some revenue in the near future.

(6) *Makhan Bela.*—A good forest of *jand* quite close to the village.

(7) *Aliwali and Alipur.*—Close to the town of Alipur. Can bring some revenue.

(8) *Litigiri.*—A second-class forest of *jand*. Being away from any big town, is not yielding anything, but its growth is good. A few sales are possible if Alipur is made a separate range.

(9) *Khanwah.*—A very good forest of *jand*. At present of little value as it is surrounded on all sides by private forests. When the private lands are cultivated, it may bring some revenue. A few *Acacia* trees are also found here and there.

(10) *Parara.*—Situated between the Chenab and its branch to the south of Sitapur. A good forest of *Acacia arabica* and poplar worth being preserved. Can command some local sales.

(11) *Dhaka.*—Situated at the southernmost end of the Muzaffargarh District between the Chenab and the Indus. A second-class *jand* forest, with plots of *Acacia arabica* here and there.

There is a large extent of either village waste land, or waste land attached to a village at settlement for the convenience of the people, in the vicinity of many of the departmental forests; hence the demand from them is often very limited. Grazing is always sought after, however. The right to take *saccharum kana* is sold by auction for nearly every area annually by the Forest Department, direct purchasers, as a rule, being Labana Sikhs, and the proceeds generally not reaching a high figure. The forests in this district not having been finally determined on for reservation, the demarcation has been confined to lines of various widths

CHAPTER II, C.

FORESTS.

Income and Expenditure from Forest Department Rakhs.

from 5 to 20 feet, with, in some instances, posts and trenching of an indifferent description.

The income from the Government rakhs during 1927-28 and 1928-29 and the expenditure for the same years were as follows:—

Particulars of revenue.	1927-28.	1928-29.
	Rs.	Rs.
Timber	2,526	4,041
Firewood	2,622	10,218
Grass and grazing	4,081	4,234
Minor produce	396	635
Miscellaneous	1,268	1,619
Total Revenue ..	10,893	20,747
Expenditure, excluding Establishment Charges.	6,125	7,175

Staff under Forest Department.—The staff consists of two forest rangers, *i.e.*, one at Muzaffargarh and the other at Alipur, called "range officers"; one range assistant attached to the Muzaffargarh range; 18 forest guards, *i.e.*, 10 in the Muzaffargarh range and 8 in the Alipur range; 1 chaukidar; and 2 peons. The staff costs the department about Rs. 550 a month. The staff is under the control of the Divisional Forest Officer, Multan, whose salary has not been included.

The rakhs in charge of the Deputy Commissioner may be divided into three classes—

(1) *The Thal rakhs.*—These rakhs abound in *kanda* (Prosopis spicigera), generally small, *jal* (Salvadora oleoides), *kari* (Capparis aphylla), and shrubs like *phog* (Calligonum polygonoides), *babbal* (Acacia jacquemonti) and *lana* (Anabasis multiflora). A few *khaggal* (Tamarix orientalis) trees are also found here and there;

(2) *Rakhs in the riverain tracts.*—These abound in *bhan* (Populus euphratica), *lei* (Tamarix dioica) and *kikar* (Acacia arabica); and

(3) *Rakhs in the central canal-irrigated tract.*—The trees in these rakhs are mostly *khaggal* (Tamarix orientalis),

some *lei*, a few *tahlis* (Sissoo), *kikar* (Acacia arabica) and *jand* (Prosopis spicigera).

Grazing in these rakhs is auctioned each year, except in the case of the rakhs in the Leiah Tahsil. Temporary leases for one year are granted by the Deputy Commissioner for cultivation, but the number of these is small. The rent is Re. 1 per acre of matured area, in addition to the land revenue. This matter is being examined again, however, and the possible colonization of some of the rakhs is also being examined. In the Nawankot Rakh in the Leiah Tahsil melons and gram are cultivated when rain is good, on temporary leases, the charge being the same as that already given above. An area of 288 acres in Rakh Daira Wadhu and 477 in Rakh Chatwahin has recently been leased to Chaudhri Sultan Ahmad, Zaildar, Montgomery, for a period of 20 years on payment of Rs. 300 per annum, in addition to land revenue, on certain conditions, which include the sinking of tube-wells (letter No. 2806-R., dated the 17th November 1926, from the Financial Commissioner). Occupancy rights are held by Qazi Sheikh Ahmed in 176 acres of Rakh Khanpur (letter No. 3060-R., dated the 14th December 1926, from the Financial Commissioner), subject to payment of *malikana* at the rate of 8 annas per rupee on land revenue. These were granted because six wells had been sunk.

Government owns cultivated and uncultivated lands in small plots in a few villages. The lands are held by tenants who pay land revenue with additional *malikana*.

Income, etc., from other Rakhs.

The income from the rakhs under the Deputy Commissioner during the years 1927-28 and 1928-29 was as follows:—

Year.	Tirni.	Sale of fuel, etc.	Rent for cultivation.	Other.
	Rs.	Rs.	Rs.	Rs.
1927-28	*24,162	1,567	1,360	†9,495
1928-29	*27,916	1,825	944	‡7,493

*No allowance for remissions, but includes *tirni* for camels.
†Sale of land Rs. 7,449, *malikana* Rs. 775 and land revenue Rs. 1,271.
‡Sale of land Rs. 5,596, *malikana* Rs. 588 and land revenue Rs. 1,309.

Establishment.

The rakh establishment under the Deputy Commissioner consists of 1 darogha in the grade of Rs. 40—90, 3 muharrirs in the grade of Rs. 30—70 and 9 peons on Rs. 14 each. The annual cost, including travelling allowance, is about Rs. 4,100. This is inadequate in view of the immense area of the rakhs.

The staff works under the general supervision of the revenue officers.

CHAPTER II, D.

SECTION D.—MINES AND MINERALS.

MINES AND MINERALS.

Mines.

The district produces no minerals of importance. Earth-salt used to be manufactured, but this is now prohibited, and the production of saltpetre is also extinct.

Kankar is extracted for burning lime and for constructing indigo vats from some of the forests in the Thal under the charge of the Deputy Commissioner on permit, but the quantity taken out and the income to Government are insignificant, the rate being 8 annas per 100 cubic feet.

CHAPTER II, E.

ARTS AND MANUFACTURES.

SECTION E.—ARTS AND MANUFACTURES.

Cotton-weaving.

Common country cloth is woven in almost every large village. The ordinary cloth is white, but blue cloth, with red or yellow stripes, is also made for women's trousers; and blue sheets, with a red edging, are prepared for wear as *manjhlas*. A kind of counterpane is also made, usually black and white, in checks. At Leiah a particularly excellent form of *khes*, or checked cotton cloth, is manufactured. Blue and white are the favourite colours, though red and yellow are also used. The cloth is of excellent texture and substance, and the woven chequer-work is as neat and firm in execution as it is agreeable in effect. It is suitable for carpet cloths, bed covers, purdahs, etc., and serves its original purpose of a cold-weather wrap as well as any cotton fabric could be expected to do.

Silk-weaving.

There is no silk-weaving in the district.

Printing on Fabrics.

Chhimbas (dyers) print cloth in showy colours with a view to its being used as *bhochhan* (sheet worn by women on the head), *ghagra* (petticoat), cloth for quilts (*sirak*) or *jajam* (flooring cloth) at Karor, Leiah, Daira Din Panah, Kot Adu, Khangarh and Alipur.

Carpets, etc.

No carpets are manufactured in the district, but durries are made at Jahanpur in the Alipur Tahsil.

Blankets.

Country blankets are woven by the local weavers out of sheep's wool, especially in the Thal. Leiah is noted for the excellent quality of its thick and well-felted blankets made in Chaubara and Nawankot.

Snuff.

Snuff is manufactured at Alipur, where there are regular mills, and large quantities are prepared for export to Bahawalpur and Sukkur.

Taddi (Matting) and Baskets.

Taddi (matting) is made of date leaves by Hindus and Muhammadans all over the district, but chiefly at Rampur, Miran Hayat Lutakran, Daira Din Panah and Gujrat. There are two varieties of *taddi*—fine and coarse—the former is used for lying on, and the other for the floor. Mr. Lockwood Kilpling, late Principal of the School of Arts, Lahore, wrote as follows about this manufacture:—

" Rampur, in this district, and probably elsewhere, mats " and baskets are made of *pattha*, leaves of the Afghan " dwarf palm (Chamoerops ritchiana). These last are not " basket-work in the strict sense of the term, *i.e.*, an inter- " lacement of twigs; but they are built up like the rope- " seed-buckets of the Deccan, or similar articles from the

" Zanzibar coast, in a series of coils tightly plaited together, " usually in the shape of large *gharas* and *lotas* with well-" fitting covers. Similar work in the same material is made " in the Bannu District, while the wheaten straw plaiting of " Hazara is another variation of the same principle. All " this work is exceedingly neat and wonderfully cheap."

Bows and Arrows.

Baskets are prepared chiefly in the towns. In Alipur North are made basket "trunks," waste-paper baskets, *moras* (seats), etc., which are quite good.

The primeval trade of bow-and-arrow making is becoming obsolete now for want of demand and owing to the introduction of cheap muzzle-loading guns. The place well known for its pretty bows is Kot Adu. Bows are made of horn and brushwood chips tied up with gut and leather. Each bow takes about six months to complete. When ready, it is very strong and difficult to bend. The bows are beautifully decorated in colour with foliated patterns in tin, yellow-varnished to simulate gilding, or left white to simulate silver. This method of decoration is called *kamangari*, and the artisans are called *kamangars*. Each *kamangar* prepares two lots of bows in a year, one lot being ready every half-year. The bows are *eknabi*, *donabi* and *senabi* according as the bow has one, two or three furrows at the back. Each furrow adds to the strength of the bow. The price of a bow is from Rs. 10 to 20. Arrows with pointed tips are not prepared unless ordered. The arrow used by the local people for shooting birds is of a peculiar shape, having a thin end and a thick and heavy front.

Ivory-carving.

Of recent years ivory-carving has been carried on as a small industry by a few artisans. The work shows considerable skill and neatness of execution; coloured designs are usually combined with carving. The manufactured articles consist mainly of bracelets, rings, studs, scent bottles, pepper and salt casters, necklaces, vases, etc. The "ivory" is probably camel bone!

Kuppis.

Kuppis made of skin were commonly used for holding *ghi* and oil; but, since tins have become much cheaper, *kuppis* are now going out of use. The only places where they are still made and available are Khairpur Sadat, Sitpur and Karor.

Other Industries.

No other industries are deserving of notice. Every large village has its local artisans who can supply the cotton, woollen fabrics, leather goods and all the implements of husbandry which the rustic peasant requires. Wool is exported, especially from the Thal.

Cotton Factories.

There is a cotton-ginning factory at Muzaffargarh. It is, however, not a very large concern. The Muzaffargarh

CHAPTER II, E.

ARTS AND MANUFACTURES.

factory has also a cotton press attached to it. Similar factories at Khangarh, Rohillanwali, Wasandewali, etc., have closed down.

Rice and Flour Mills.

There are rice and flour mills in various places. Details are given in table 28 of volume B.

Leather-tanning.

Leather-tanning is carried on in almost every large village, but the *mochis* (shoemakers) follow the old crude methods of curing skins with lime and tanning them with the bark of *kikar* (Aracia arabica). The trough is called *kunal*, and skins filled up with the tanning fluid are hung to trees or wooden posts erected for the purpose.

Rope-making.

Rope-making is an important industry which is mainly in the hands of the Labana Sikhs. They buy up *munj kana* (Saccharum munja) and beat the bark of the reed (*munj*) into fine fibres. These fibres are then twisted together on a kind of spindle and made into ropes. Ropes are also made of date leaves by a similar process. Ropes are used locally and also exported.

Munj Matting.

Some *munj* matting is made at Thatta Gurmani in the Kot Adu Tahsil mainly by ex-convicts, and mats are supplied to schools in the Multan Division on a fairly large scale. The mats are like those made in jails, where the work was learnt.

Wood-work.

There is also some good wood-work—spinning-wheels, legs of beds, *dabias*, *madhanis*, etc.—made at Kotla Gamun in the Alipur Tahsil and at Paharpur in the Leiah Tahsil and at Karor.

Labour Supply.

The demand for labour is small, and is supplied locally.

Industrial Education.

The high schools at Leiah and Kot Adu are now giving instruction in hand-work. There is also a private industrial school at Kot Adu for Hindus.

CHAPTER II, F.

COMMERCE AND TRADE.

SECTION F.—COMMERCE AND TRADE.

Commerce and Trade.

The mercantile classes of the district are not noted for a spirit of enterprise; and, though ready enough to invest their money in loans upon the security of land mortgages, or to sink capital in agricultural improvements, such as wells, water-courses, etc., they display a remarkable apathy in the matter of distant trade. The district accordingly has few commercial transactions of any magnitude, and any distant trade is carried on not by resident merchants, but by traders from Multan, Sukkur and Shahpur who visit the district and buy up agricultural produce from the local traders for export to Multan and Karachi. The opening of the railway in 1886 has practically killed the river traffic to Sukkur, but Shahr Sultan still exports by river to a small extent. The chief exports of the district are wheat, *gur*, cotton, indigo, *ghi* (clarified butter), dates, mangoes and snuff. The cultivators dispose of their surplus produce to the petty dealers of the small towns and villages, who again pass them on to the exporting merchants. Some of the *gur* goes to Dera Ghazi Khan, and the snuff is sent out chiefly to Bahawalpur. Indigo is sent to Peshawar, Hazara, Dera Ismail Khan and Multan. The sheep-owners of the Thal sell their wool mainly to the Hindu middlemen at Chaubara and Nawankot, who export it by camel across the Thal to Multan.

The chief imports are cotton and woollen piece-goods, metals, salt and lime.

Castes engaged in Trade.

The local traders are Aroras by caste, and some are Sikhs, who are outsiders, and have settled here for some years.

Centres of Trade.

Every railway station from Karor to Muzaffargarh is now an exporting centre. Indeed goods are booked even from flag stations. Grain, etc., are brought to Muzaffargarh from the Alipur and the southern portion of the Muzaffargarh Tahsil by camels, motor lorries and carts. From the Alipur Tahsil some grain is exported by river to Sukkur.

Modes of Carriage.

There are a few bullock carts in the district. Camels are the usual means of transport, and they can travel not only along the main roads, but along all sorts of footpaths. Pack bullocks and donkeys are also used to some extent. Motor lorries and tongas ply on the roads between Sitpur and Muzaffargarh and from Muzaffargarh to Ghazi Ghat and to Multan, carrying large quantities of mangoes, dates, etc.

MEANS OF COMMUNICATION.

Railways.

The Sindh-Sagar Branch of the North-Western Railway, which was built in 1886, enters the district from Shershah (Multan) by a bridge over the Chenab and runs through the northern half of the district, turning northwards along the east bank of the Indus. From Mahmud Kot a branch runs to Ghazi Ghat opposite Dera Ghazi Khan with Sheikh Ismail (flag station) between; the distance between the two places is about 9 miles, and communication across the river is by means of a bridge of boats in the winter and a ferry steamer in the summer, which are under the Public Works Department. There are a Public Works Department house boat and motor launch also for the use of officials. The other railway stations starting from the east are: Chenab West Bank, Muzaffargarh, Budh (flag station), Mahmud Kot (junction), Gurmani (flag station), Sanawan, Kot Adu, Daira Din Panah, Ihsanpur (flag station), Kot Sultan, Jamman Shah (flag station), Leiah, Doratta, Karor and Sadan Sawaya (flag station). A line has been surveyed from Muzaffargarh to Panjnad and Dera Nawab *viâ* Alipur, which should be most useful. There is also a preliminary investigation in progress for a line from Muzaffargarh into the Jhang District *viâ* Rangpur, which would also be most useful now that the Haveli Project is to be taken up.

This district is not subject to famine, but the railway has raised prices more or less. It has had no effect upon language or religion.

Roads.

There are the following metalled roads: A distance of 27 miles (out of 52) between Muzaffargarh and Alipur, 20 miles between Muzaffargarh and Ghazi Ghat, 6 miles between Chenab West Bank and Muzaffargarh (road from Multan) and civil station roads about 10 miles in all. The three main roads are under the charge of the Public Works Department. It also maintains the unmetalled portion of the road to Alipur which is being gradually metalled. The railway bridge at Chenab West Bank is open to traffic from sunrise to sunset, but is closed when trains are expected. The district board maintains the civil station roads at Muzaffargarh, Leiah and Karor. The following is a list of the roads under the management of the district board:—

(1) Muzaffargarh-Rangpur road (district boundary terminus), class II;

(2) Muzaffargarh-Jharkal road (district boundary terminus), class II;

(3) Kot Adu-Langar Sarai road;

(4) Sanawan-Munda road;

(5) Kot Adu-Munda road;

CHAPTER II, G.

MEANS OF COMMUNICATION.

(6) Daira Din Panah-Rangpur road *viâ* Munda;
(7) Sanawan-Qureshi road, class II;
(8) Mahmud Kot-Dera Ghazi Khan ferry road, *viâ* Gujrat;
(9) Sanawan-Khangarh ferry road, *viâ* Kinjhar, class II;
(10) Muzaffargarh-Kinjhar road, *viâ* Shahgarh, class II;
(11) Alipur-Sitpur-Dhaka road, class II;
(12) Kinjhar-Jatoi road, class II;
(13) Shahr Sultan-Jatoi road, class II;
(14) Jatoi-Alipur road, class II;
(15) Jatoi-Khairpur road;
(16) Aludewali-Jatoi road;
(17) Jatoi-Dhaka road;
(18) Jatoi-Mudwala road;
(19) Khairpur-Sitpur road;
(20) Leiah-Nawankot-Jhang road (to district boundary), class II;
(21) Leiah-Chaubara-Jhang road (to district boundary), class II;
(22) Chaubara-Mankera road, *viâ* Nawankot (to district boundary), class II;
(23) Alipur-Panjnad road;
(24) Sanawan-Thatta Gurmani road;
(25) Sanawan-Khar Gharbi, *viâ* Dogar Kalasra to Indus ferry;
(26) Thatta Gurmani-Gurmani road; and
(27) Alipur-Khairpur road.

There are a few less important roads.

The total mileage of these unmetalled roads under the district board is 689 miles. These roads are, in most cases, indifferent, but this is mainly due to the poverty of the district board, though the soil has something to do with it. Straw has to be spread on most unmetalled roads to admit of wheeled traffic. Since 1925-26 the Communications Board has been assisting with grants-in-aid for roads classed as "II." The Muzaffargarh-Rangpur road up to mile 12, and the roads Khangarh-Kinjhar, Kinjhar-Sanawan, *viâ* Qureshi, and Kinjhar-Jatoi, *viâ* Dharmsâla, have been improved with such grants. The Alipur-Jatoi road will be similarly improved. A maintenance grant amounting to 50 per cent. is paid to the district board. The condition is that the roads are satisfactorily maintained. Motor traffic is

CHAPTER II, G.

MEANS OF COMMUNICATION.

increasing. Fortunately, there is not much bullock-cart traffic. The *bunds* maintained by the Canal Department are motorable, as are also many of the inspection roads along the canals. The roads in the Leiah Tahsil are mostly glorified camel tracks. In the *Kachchhi* the annual inundations and frequent creeks render good roads impossible, while in the Thal the sandy nature of the country produces a similar result; but, as there is absolutely no wheeled traffic in the whole tahsil, and camels are universally used for the conveyance of both men and goods, the absence of good roads causes little inconvenience. An occasional lorry, however, runs from Leiah to Chaubara, and, if the road were better, there would no doubt be a regular service.

Rest-houses.

Full particulars of the rest-houses are given in table 29 in volume B. They are—

Canal Rest-houses.

(1) Muzaffargarh;
(2) Khangarh;
(3) Rohillanwali;
(4) Jatoi;
(5) Bara;
(6) Basira;
(7) Kinjhar;
(8) Shujra;
(9) Warainwala;
(10) Sanawan;
(11) Machhi;
(12) Kot Sultan;
(13) Rangpur;
(14) Rao Bela;
(15) Hinjrai;
(16) Damarwala; and
(17) Hamzewali.

Public Works Department Rest-houses.

(1) Ghazi Ghat; and
(2) Wassandewali.

Forest Rest-house.

Bet Ranuja.

District Board Rest-houses.

(1) Shahr Sultan;
(2) Alipur;
(3) Khanwah;
(4) Kot Adu;
(5) Daira Din Panah;
(6) Leiah;
(7) Karor;
(8) Chaubara; and
(9) Muzaffargarh (Dâk Bungalow).

Police Rest-houses.

(1) Mahmud Kot:
(2) Langar Sarai (Abandoned);
(3) Qureshi;
(4) Sitpur;
(5) Munda; and
(6) Khudai.

Railway Rest-houses.

(1) Chenab West Bank;
(2) Mahmud Kot;
(3) Daira Din Panah;
(4) Kot Sultan;
(5) Leiah; and
(6) Karor.

The police rest-houses are generally old buildings. Most of the canal rest-houses are very comfortable. The dâk bungalow at Muzaffargarh and the other civil rest-houses are maintained by the district board, which receives a grant from Government. The Sessions House at Muzaffargarh is usually available for touring officers. It is allotted by the Sessions Judge, Multan.

Polymetrical Table.

A polymetrical table is given in table 30 of volume B.

Encamping-grounds.

There are military encamping-grounds at Sanawan, Mahmud Kot, Ghazi Ghat, Qureshi and Muzaffargarh. Certain others have recently been surrendered.

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Sarais.

'There are sarais at Leiah in charge of the Municipal Committee, Leiah, and those at Karor, Sanawan, Qureshi, Mahmud Kot and Muzaffargarh are in charge of the district board. The sarais at Ghazi Ghat and Muzaffargarh are important ones.

Inland Navigation.

There are no navigable canals in the district. The creeks in the riverain tracts are crossed by ordinary boats which are supplied by ferry contractors. Some zamindars keep their own boats for use during the flood season. In some of the inland creeks small boats are kept for fishing.

The ferries on the Indus are managed by the Dera Ghazi Khan District Board. Those on the Chenab are managed by the District Board, Muzaffargarh. A list of the Chenab ferries is given below:—

(1) Bullewahan;
(2) Dholanwala;
(3) Dhunduwala;
(4) Tibbewala;
(5) Ganga;
(6) Binda Ishak;
(7) Shahpur;
(8) Shahr Sultan;
(9) Mudwala;
(10) Bhakrí;
(11) Makhan Bela;
(12) Kundrala;
(13) Nurwala;
(14) Khangarh Doma;
(15) Jhokwala;
(16) Hiranwala;
(17) Bet Isa;
(18) Mud Daulat Shah;
(19) Nahranwala;
(20) Arewala;
(21) Chuharpur;
(22) Rajghat;
(23) Pipli;
(24) Hamandpur;
(25) Mohanwala;
(26) Tragranwala;
(27) Alipur; and
(28) Jatoi.

The income from the lease of the ferries was Rs. 20,950 in 1929-30.

Postal Arrangements.

The postal arrangements of the district are under the charge of the Superintendent, Post Offices, Muzaffargarh. Besides Muzaffargarh, which is the head office of the district, there are sub-offices at Alipur, Khangarh, Kot Adu, Karor, Leiah and Ghazi Ghat, with a number of branch offices attached to each. The following is a list of the branch post offices:—

Sub-offices.	Branch offices.
Muzaffargarh	Alipur, Chenab West Bank, Langar Sarai, Muradabad, [ab]Rangpur, Basira, Bhutapur, Khanpur-Shumali, [b]Kinjhar, Qureshi, Mahmud Kot, Mahmud Kot Town, Mahra, Moharpur, [b]Rohillanwali and [ab]Shahr Sultan.
Alipur	[ab]Jatoi, Khairpur, Kundai and [ab]Sitpur.
Khângarh	Harpallo.
Kot Adu	Gurmani and Sanawan.
Karor	Chaubara and Nawankot.
Leiah	Ahsanpur, [b]Daira Din Panah, Jaman Shah, [b]Kot Sultan, Leiah Bazar and Shahpur.
Ghazi Ghat	Gujrat.

Those marked * are departmental branch offices, and the others are extra-departmental offices. Those marked [b] are allowed to book telegrams.

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MEANS OF COMMUNICATION.

The post is transmitted by rail along the railway line, and by motor lorry from Muzaffargarh to Alipur. In all the other parts of the district it is carried by tongas or dâk runners. Tables 31 and 32 in volume B deal with post offices.

Telegraph Offices.

The head office and the sub-offices are all combined post and telegraph offices. Telegraphic messages can, however, be sent from Kinjhar, Rangpur, Rohillanwali, Shahr Sultan, Jatoi, Sitpur, Daira Din Panah and Kot Sultan, which are allowed to book them (when they are sent to the nearest telegraph office), and also along the railway line through the railway telegraph. The Canal Department has also set up a telegraph line along the rest-houses situated on the main canals, though only for official purposes.

SECTION H.—FAMINE.

CHAPTER II, H.

FAMINE.

Cultivation in this district depending on one form or another of irrigation, it is practically immune from famine. The area matured in the famine year of 1899-1900 was 84 per cent. of the normal. No famine works have had to be started within recent years. Large numbers of people, on the contrary, flock into this district from Bikaner (through Bahawalpur) when that tract is passing through a famine. They spread out, and able-bodied persons can usually find employment and the others alms enough to keep them alive.

The agricultural population of the Thal depends upon its wells, and the sheep- and camel-owners move elsewhere when pasturage fails.

CHAPTER III.—Administrative.

SECTION A.—ADMINISTRATIVE DIVISIONS.

CHAPTER III, A.

ADMINISTRATIVE DIVISIONS.

General.

The district is in charge of a Deputy Commissioner, subject to the control of the Commissioner of the Multan Division. The ordinary district staff (see table 33 in volume B) consists of two sub-divisional officers (Leiah and Alipur), a revenue assistant, a treasury officer and a magistrate (general assistant). Extra officers are posted to the district from time to time for training or otherwise. The District and Sessions Judge, Multan, is also District and Sessions Judge for Muzaffargarh. The District and Sessions Judge, Dera Ghazi Khan, is Additional Sessions Judge for Muzaffargarh, and does the sessions work during the winter months.

Magistrates.

The Deputy Commissioner is also the District Magistrate, and all Extra Assistant Commissioners ordinarily have first-class magisterial powers. The sub-divisional magistrates ordinarily have section 30 powers, and sometimes power to hear appeals from magistrates, 2nd and 3rd class, in their sub-divisions. The General Assistant ordinarily has section 30 powers. The Senior Sub-Judge is also given section 30 powers in case his help is wanted by the District Magistrate for very special cases. As the treasury is a light charge, the Treasury Officer does magisterial work. The Revenue Assistant is given criminal work with the permission of the Commissioner. The tahsildars and naib-tahsildars are also magistrates of the 2nd and 3rd class, respectively, and the Naib-Tahsildar, Rangpur—a sub-tahsil—usually has second-class powers.

Honorary Magistrates.

The official magisterial staff is assisted by the following honorary magistrates, but they do little work as a rule:—

(1) Khan Muhammad Abdullah Khan, Magistrate, 2nd class, Khangarh;
(2) Mian Mahbub Ali, Magistrate, 3rd class, Thatta Gurmani; and
(3) Khan Sahib Makhdum Sheikh Muhammad Hassan, Magistrate, 1st class, Sitpur.

There is a bench of magistrates for the town of Muzaffargarh exercising third-class powers. It consists of—

(1) Lala Gurditta Ram; and
(2) Makhdum Ghulam Mustafa.

They try petty cases under the Municipal Act, etc.

Public Prosecutor and Police Prosecuting Staff.

There is a Public Prosecutor for the district at Muzaffargarh. There are also a police prosecuting inspector and

CHAPTER III, A.

ADMINISTRATIVE DIVISIONS.

police prosecuting sub-inspectors at Muzaffargarh, Leiah and Alipur.

Jirgas

The Frontier Crimes Regulations are in force in the Leiah Tahsil, and the Deputy Commissioner tries jirga cases when these are necessary.

Panchayats.

These have been established at Umarpur, Mahal Khakhi, Dammarwala Shumali, Kabir Gopang, Bilewala, Nurewala, Wara Sihran and Khokharwala, and Sanawan, Gujrat, Rohillanwali, Mahmud Kot, Hamzewali, Jahanpur, Madwala, Jhalarin, Dammarwala Janubi, Shahwala, Thatta Qureshi, Khoawar, Muradabad, Kot Sultan, Chaubara and Nawankot are in the process of being constituted as panchayats under the Act. These exercise civil jurisdiction up to Rs. 50, and try petty local criminal cases as given in section 22 of the Punjab Village Panchayat Act, III of 1922 (see also chapter III, section E).

Revenue Staff.

The Deputy Commissioner is the Collector of the district, and is the head of the district revenue staff. He is assisted by the Revenue Assistant and by the sub-divisional officers who are Assistant Collectors of the first grade.

Each of the four tahsils has a tahsildar. In the Alipur Tahsil there is one naib-tahsildar. In the Muzaffargarh Tahsil there are three naib-tahsildars, but one of them has his headquarters at Rangpur, which is a sub-tahsil. In the Kot Adu Tahsil there is one naib-tahsildar. In the Leiah Tahsil there are two naib-tahsildars mainly because of the Thal, where touring is difficult. An extra naib-tahsildar is posted to each of the Kot Adu and Alipur Tahsils for *girdawari* work during the kharif and rabi. The village revenue staff is as follows:—

Tahsil.	Office Kanungos.	Field Kanungos.	Patwaris and Assistant Patwaris.
Leiah	1	5	63
Muzaffargarh	1	9	121
Alipur	1	8	95
Kot Adu	1	5	69
Total ..	4	27	348

CHAPTER III, A.

ADMINISTRATIVE DIVISIONS.

This establishment is under the supervision of the naib-tahsildars, the tahsildar, the sub-divisional officers and the revenue assistant, assisted by a district kanungo, who has his headquarters at Muzaffargarh. The district revenue record-room is in charge of an assistant district kanungo, with a staff of muharrirs. There is also a special kanungo to facilitate the work of civil and revenue courts and parties who have to refer to revenue records. The establishment is under the supervision of the district kanungo.

Table 33 in volume B contains the distribution of officers.

Revenue Cases.

Table 36 of volume B shows the revenue court and revenue officers' cases disposed of.

Police.

There are 18 police stations or thanas in the district. The sanctioned strength is 2 inspectors, 27 sub-inspectors, 7 assistant sub-inspectors, 86 head constables and 5 mounted and 452 foot constables.

The police arrangements are in charge of a Superintendent of Police, who is assisted by a Deputy Superintendent, subject to the control of the District Magistrate. The police is further dealt with in section H of this chapter.

Sub-jail.

There is a sub-jail in the district, and the treasury officer usually acts as superintendent (see also section H of this chapter).

Court of Wards.

The Deputy Commissioner is in charge of the estates of all wards taken under the court of wards, or of whom he is appointed guardian by the civil court under the Guardians and Wards Act. The estates at present under him (the latter category) are—

(1) estate of M. Muhammad Ibrahim, son of the late Khan Sahib Maulvi Ghaus Bakhsh, Honorary Magistrate, of Alipur; and (2) estate of Khan Saidullah Khan and Khan Nasrullah Khan, sons of the late Khan Bahadur Nawab Muhammad Saifullah Khan, Honorary Extra Assistant Commissioner, Khangarh.	Appointed under the Guardians and Wards Act.

(A proposal to place these under the Court of Wards is under consideration).

CHAPTER III, A.

ADMINISTRATIVE DIVISIONS.

Village Autonomy.

Proposals have been sent up for bringing certain other indebted persons of good position under the court of wards.

The village communities are gradually being constituted into panchayats, which are dealt with in section E of this chapter.

Zaildars.

There are now 52 zaildārs, and their distribution is given in table 33 of volume B. The pay of zaildars was fixed at the last settlement as follows:—

Tahsil.	1st Grade. Number.	1st Grade. Amount at Rs. 250 each.	2nd Grade. Number.	2nd Grade. Amount at Rs. 200 each.	3rd Grade. Number.	3rd Grade. Amount at Rs. 150 each.	Total. Number.	Total. Amount.	Special Inams.	Grand Total.
		Rs.		Rs.		Rs.		Rs.		Rs.
Leiah ..	2	500	2	400	5	750	9	1,650	..	1,650
Kot Adu ..	2	500	5	1,000	2	300	9	1,800	1 of Rs. 50	1,850
Muzaffargarh	3	750	8	1,600	7	1,050	18	3,400	1 of Rs. 150	3,550
Alipur ..	3	750	5	1,000	8	1,200	16	2,950	..	2,950
Total ..	10	2,500	20	4,000	22	3,300	52	9,800	..	10,000

The special inams are held by Mian Mahbub Ali and Khan Muhammad Abdullah Khan, respectively. The appointment, promotion, etc., of zaildars are regulated by the land revenue rules.

The following is a list of the present zaildars:—

Serial No.	Name of Tahsil.	Name of Zaildar.	Name of Zail.	REMARKS.
1	Muzaffargarh ..	M. Haq Nawaz ..	Amirpur Kanaka.	
2	Do. ..	Vacant ..	Rangpur.	
3	Do. ..	M. Khuda Bakhsh..	Muradabad.	
4	Do. ..	M. Rahim Bakhsh..	Thatta Siyalan.	
5	Do. ..	Sheikh Allah Bakhsh	Muzaffargarh.	
6	Do. ..	Sheikh Muhammad Bakhsh.	Thatta Qureshi.	
7	Do. ..	K. Ghulam Qadir Khan.	Khangarh.	
8	Do. ..	M. Ghulam Mustafa	Mondka.	
9	Do. ..	S. Ghulam Haidar Shah.	Ali Daha.	
10	Do. ..	K. Fateh Muhammad Khan.	Qalandarwala.	
11	Do. ..	M. Sultan Mahmud	Sharif Chhajra.	
12	Do. ..	M. Ghulam Muhammad.	Kinjhar.	
13	Do. ..	Jam Allah Ditta ..	Diwala.	
14	Do. ..	M. Ahmad Ali ..	Uttera Sandila.	
15	Do. ..	M. Karim Dad ..	Mahra.	
16	Do. ..	Jam Hashim Ali ..	Rohillanwali.	
17	Do. ..	M. Allah Bakhsh ..	Mochhiwali.	
18	Do. ..	Khuda Bakhsh Khan	Ghazanfargarh.	
19	Alipur ..	Hafiz Muhammad Khan.	Dammarwala Shumali.	
20	Do. ..	Diwan Muhammad Ghaus.	Shahr Sultan.	
21	Do. ..	M. Nazar Muhammad	Bilewala.	

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ADMINISTRATIVE DIVISIONS.

Serial No.	Name of Tahsil.	Name of Zaildar.	Name of Zail.	REMARKS.
22	Alipur ..	Khan Muhammad Khan.	Bet Warianwala.	
23	Do. ..	Muhammad Nasir Khan.	Jatoi.	
24	Do. ..	Sher Muhammad Khan.	Jhalarin.	
25	Do. ..	M. Jind Wadda Panuhan.	Madwala.	
26	Do. ..	Jam Wahid Bakhsh	Dammarwala Janubi.	
27	Do. ..	S. Bande Shah ..	Bande Shah.	
28	Do. ..	K. Pallu Khan ..	Alipur.	
29	Do. ..	K. Nawab Khan ..	Khairpur Sadat.	
30	Do. ..	K. Nur Ahmad ..	Ghiri.	
31	Do. ..	Khan Sahib Makhdum Muhammad Hassan.	Sitpur.	
32	Do. ..	K. Ali Muhammad Khan.	Bhambri.	
33	Do. ..	Jam Sona ..	Khanpur Naraka.	
34	Do. ..	S. Turab Ali Shah..	Dhaka.	
35	Kot Adu ..	M. Allah Bakhsh ..	Tibba.	
36	Do. ..	M. Ghulam Muhiy-ud-Din.	Pattal Kot Adu.	
37	Do. ..	Malik Mahmud ..	Pirhar Gharbi.	
38	Do. ..	M. Khuda Bakhsh..	Sheikh Umar.	
39	Do. ..	M. Fateh Muhammad.	Sanawan.	
40	Do. ..	M. Muhammad Yar	Khar Gharbi.	
41	Do. ..	M. Mahbub Ali ..	Thatta Gurmani.	
42	Do. ..	Khan Muhammad Saifullah Khan.	Khoawar.	
43	Do. ..	Chaudhri Parma Nand.	Gujrat.	

Serial No.	Name of Tahsil.	Name of Zaildar.	Name of Zail.	REMARKS.
44	Leiah ..	S. Amir Ahmad Shah	Marhanwali.	
45	Do. ..	K. Muhammad Khan	Wara Sihran.	
46	Do. ..	S. Ghulam Sarwar Shah.	Karor.	
47	Do. ..	K. Ataullah Khan..	Naushehra.	
48	Do. ..	Mahr Allah Bakhsh	Leiah.	
49	Do. ..	Malik Allah Bakhsh	Sarishta.	
50	Do. ..	K. Abdullah Khan	Kot Sultan.	
51	Do. ..	S. Jind Wadda Shah	Bet Dabli.	
52	Do. ..	Chaudhri Parma Nand.	Nawankot.	

The following is a statement showing the number and grades of *inamdars* :— Inamdars.

Tahsil.	1ST GRADE.		2ND GRADE.		3RD GRADE.		TOTAL.	
	Number.	Amount at Rs. 80 each.	Number.	Amount at Rs. 60 each.	Number.	Amount at Rs. 50 each.	Number.	Amount.
		Rs.		Rs.		Rs.		Rs.
Kot Adu ..	1	80	4	240	4	200	9	520
Muzaffargarh ..	1	80	8	480	9	450	18	1,010
Alipur	1	80	8	480	7	350	16	910
Total ..	3	240	20	1,200	20	1,000	43	2,440

NOTE.—When a 1st-grade vacancy occurs in the Kot Adu Tahsil, it will be transferred to the Muzaffargarh Tahsil.

At the recent settlement it was not found possible to reduce the number of zails, nor necessary to create any new ones. Before the previous settlement the zaildari inams had been based on the revenue of the different zails; and, though at the previous settlement they were commuted for fixed sums Zaildars and Inamdars.

CHAPTER III, A.

ADMINISTRATIVE DIVISIONS.

and graded, the resuts of the previous system persisted, and there were too many first-grade zaildars at Kot Adu and too few in Muzaffargarh. The amounts fixed at the beginning of the century had begun to look very small 20 years later and were increased, and the inams of different grades redistributed over the district to bring the rewards more in accordance with the work. The first-grade zaildari inams are still only Rs. 250, a sum very small in comparison with those given in neighbouring districts; but, owing to the poverty of the district, larger inams cannot be given. The safedposhi inams have been increased in the three southern tahsils both in number and amount, and there is now one to every zail. In the Leiah Tahsil there are no less than 52 inams graded into nine classes; these were granted as compensation as the superior proprietary body had suffered loss owing to a mistake in the calculation of their superior proprietary dues. These inams were not granted to the whole proprietary body, but to selected individuals from among them. Under the orders of Government passed in 1908 these inams were made into two classes, the first consisting of all existing inamdars, to hold under the Hazara rules as interpreted in the latter, and the second consisting of their successors, to hold under the land revenue rules. As the existing inamdars had no objection to holding under the land revenue rules, all the inams were brought under the land revenue rules, subject to certain provisos regarding succession and the total aggregate of the ināms. These provisos were intended to apply to inams regranted under those rules; and, as the original grants were intended to be compensatory in their nature, and to be in perpetuity, Government is bound to maintain the arrangement sanctioned in 1908. Under these arrangements it is possible for an inam to be regranted to a person not of the family of the original grantee; but, when so granted constitute a separate class from the others, which may be called class II, inasmuch as succession does not rest in the relatives of the last holder, but is governed by the land revenue rules. When a vacancy occurs in class I, the inam will ordinarily be regranted to a relative; but, if no suitable relative is forthcoming, it may, with the Commissioner's sanction, be abolished and its value transferred to increase an existing inam, or again, with the Commissioner's sanction, it may be regranted to an outsider and pass to class II. When a class II inam falls vacant, it will be treated under the land revenue rules and regranted to the most suitable person without regard to hereditary claims. It may not be abolished unless the equivalent of the inam is distributed over other inams of this class.*

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*Financial Commissioner's No. 1321-22-R., dated the 23rd April 1926, to the Commissioner, Multan Division, and notification No. 119-Rev., dated the 26th March, 1919.

These Leiah inams are graded as follows:—

CHAPTER III, A.

ADMINISTRATIVE DIVISIONS.

No.	Class.	Grade.	Number.	Amount.
		Rs.		Rs.
1	A	250	1	250
	B	250	..	..
2	A	150	3	450
	B	150	..	..
3	A	125	1	125
	B	125	..	..
4	A	100	7	700
	B	100	1	100
5	A ..	75	5	375
	B	75	3	225
6	A	60	1	60
	B	60	1	60
7	A	50	10	500
	B	50	8	400
8	A	30	4	120
	B	30	1	30
9	A	25	5	125
	B ..	25	1	25
	Total ..	..	52	3,545

Zaildar and Sufedposhi Books.

Each zaildar and safedposh has been provided with a book containing a list of villages included in the zail, a map thereof, a printed paper showing his duties and blank sheets for the remarks of the Collector or other officers above the rank of tahsildar when they go out on tour. These are not meant for opinions on the work of the owners of the books only, but should reflect the condition of their zails and *halqas*.

Lambardars.

There are too many lambardars in the district, and what they receive is very little. But to make an immediate reduction would cause an amount of discontent out of proportion

CHAPTER III, A.

ADMINISTRATIVE DIVISIONS.

to the good attained. Pandit Hari Kishan Kaul, the previous Settlement Officer, drew up a list of lambardars, and made very careful recommendations about each. This list was, however, neglected during the busy time of the war, and a number of posts which should have come under reduction was filled. A similar scheme for the gradual reduction of lambardars has been prepared by the late Settlement Officer, and is available for the Deputy Commissioner's reference when vacancies occur; and he can go up for sanction to reduction if he considers this advisable with regard to the circumstances then existing. But lambardaris are, as a rule, not reduced so long as there are heirs fit to succeed, and the reduction is therefore uncertain, and in any case the process is very slow.

SECTION B.—CIVIL AND CRIMINAL JUSTICE.

Criminal.

The criminal statistics of the district (see table 34 of volume B) show no important features. Petty thefts and cattle-lifting are the most common. The number of murders averages about 9 a year. They can invariably be traced to jealousy or intrigue, and a woman is almost always the motive.

The standard of morality being low, and there being a shortage of women in the district, cases of abduction and enticement of women are numerous. Of the complaints instituted, very few are successfully prosecuted, the acceptance of consideration for, or the return of, the woman being generally taken as sufficient to warrant a compromise.

Civil.

In civil litigation the district takes second place in the province—after Hoshiarpur—but the suits are generally small. Suits for money and movable property are generally common. Table 35 of volume B gives details.

The civil courts in the district are as follows:—

(1) The court of the District Judge (at Multan);

(2) The court of the Senior Sub-Judge, Muzaffargarh; and

(3) Three courts of Sub-Judges, one each at Muzaffargarh, Leiah and Alipur, the Sub-Judge at Muzaffargarh having jurisdiction over the Muzaffargarh and Kot Adu Tahsils.

An additional Sub-Judge is sometimes posted to Muzaffargarh.

All the Sub-Judges, including the Senior Sub-Judge, have Small Cause Court powers. The Senior Sub-Judge has also powers under the Insolvency Act, the Guardians and Wards Act and the Succession Certificate Act for the whole of the district. He is also at present the district court for the purpose of appeals from Sub-Judges—other than 1st class—in small causes not exceeding Rs. 1,000 in value, land suits not exceeding Rs. 250 in value and unclassed suits not exceeding Rs. 500 in value.

There are are two courts of Honorary Sub-Judges, *viz.*:—

(*i*) Khan Abdullah Khan, exercising powers of a Sub-Judge to the limit of Rs. 100 within the limits of the Muzaffargarh Tahsil; and

(*ii*) Khan Sahib Makhdum Sheikh Muhammad Hassan of Sitpur exercising powers of a Sub-Judge to the limit of Rs. 750 within the limits of Muzaffargarh District.

CHAPTER III, B.

CIVIL AND CRIMINAL JUSTICE.

Customary Law.

A revised "Customary Law" of the district was compiled by Mr. J. D. Anderson, I.C.S., Settlement Officer.

The Bar.

There are 4 advocates and 17 pleaders at Muzaffargarh, 7 pleaders at Alipur, 7 at Leiah and 1 at Kot Adu. The Public Prosecutor is also the Government Pleader, and there is an Official Receiver whose headquarters are at Multan.

Petition-writers.

There are 57 (3 I class and 54 II class) petition-writers in the district, the scale sanctioned by the High Court being 60 for both the grades.

Registration.

The Deputy Commissioner is *ex-officio* Registrar for the district. There are four offices, one in each tahsil, and the following are the departmental Sub-Registrars:—

(1) Shaikh Fazal Karim Bakhsh, Qureshi, at Muzaffargarh;

(2) Malik Allah Bakhsh at Leiah; and

(3) and (4) The Tahsildars, *ex-officio*, at Kot Adu and Alipur.

The Tahsildars of Leiah and Muzaffargarh are also joint Sub-Registrars for their tahsils.

The passing of the Punjab Alienation of Land Act has considerably reduced the number of registrations. The work has increased generally in recent years (see table 37 in volume B).

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Village Communities.

The following village tenures exist in the district:—

(1) *Bhayyachara mukammal;*

(2) *Bhayyachara ghair-mukammal;*

(3) *Pattidari;*

(4) *Zamindari;* and

(5) *Zamindari bil ijmal.*

Practically every well in the district constitutes a separate estate, and for administrative purposes a number of wells has always been grouped together under the name of a village. In some places there never was any land common to the wells; in others, where there was some common grazing land, it has been partitioned, and now each well has a waste area of its own. The great majority of villages is accordingly held on the tenure called *bhayyachara mukammal* (complete), which means that the possession of each owner or group of owners is the measure of their rights; in other words, that the wells or holdings are quite independent of one another and have nothing in common. Next in importance comes the tenure called *bhayyachara ghair-mukammal* (incomplete), where there is some village *shamilat* (common land). The number of such villages is largest in the Alipur Tahsil, where the extensive river front prevents a partition of the common riverain lands. In the Kot Adu and Leiah Tahsils too the extensive waste area of the Thal has so far been found useful for the grazing of cattle without restriction.

With the exception of the Thal villages, where no partition could take place in consequence of the agreements executed under the Sindh-Sagar Doab Colonization Act,* the villages of this class are being converted gradually into *bhayyachara mukammal* as individual rights are asserted more and more. The *pattidari* tenure is rare. The few villages classed under that head were formed more by throwing into one village areas held by different groups of proprietors, than by the area of the village being colonized in defined sub-divisions. The following extract from an old Gazetteer will be found interesting.—

"It is in many cases simply impossible to class a "village satisfactorily under any one of the ordinarily re-"cognized tenures; the primary division of rights between "the main sub-divisions of the village following one form, "while the interior distribution among the several pro-"prietors of each of these sub-divisions follows another "form which itself often varies from one sub-division to "another. Especially is this the case in Muzaffargarh,

*Since repealed.

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"where the village communities are not, as a rule, compact "family groups, the members of which claim descent from "a common ancestor, but fortuitous aggregations of units "whom circumstances, rather than nature, have brought "together. Owing to the mode in which inferior proprietor-"ship was formed, *viz.*, by settling individuals to till the "land, it follows that most villages are mere collections of "wells grouped together for revenue purposes, but not really "knit together in any way, and that the only real bond in "many cases between the members of a village community "in this district is the artificial bond, imposed by our "Government, of joint responsibility for the land revenue. "To such communities as in Multan, so here, neither of "the terms *pattidari* or *bhayyachara* can in their original "significance be applied with propriety. The technical "sense, however, of the term *bhayyachara*, which is used to "express a state of things where possession, and not "ancestral descent, is the measure of right and liability, "seems to apply more nearly than the term *pattidari*, "which implies that ancestral right, as derived from a "common ancestor, is the rule by which each man's share "in the village lands is determined. The process by which "the existing state of things was arrived at differs materially "from the process implied in the terms *pattidari* and "*bhayyachara*; but, looking at results alone, it is possible "to apply the term *bhayyachara* in its technical sense to "these villages. The extent of each man's possession is the "measure of his rights in, and liabilities on account of, "the village; and this is practically the essential feature "of the *bhayyachara* tenure.

"These remarks apply to the majority of village com-"munities, but not to all; for there are some few undoubted-"ly which really approach the standard of village com-"munities elsewhere, being composed in the main of "members of one clan, descendants perhaps of a common "ancestor. Even in these, however, ancestral right, as "regulating the relative claims of the shareholders, has "completely fallen into abeyance. The villages classed as "zamindari are probably rightly so classed; they are vil-"lages owned by one proprietor or by one family, the "shares in the latter case being undivided. In illustration "of what has been said, the following remarks of the "Settlement Officer of 1857, Captain Graham, may be "quoted:—

'In practice, each man's holding has become the sole 'measure of his right. In the event of disproportion arising 'between any of the holdings and the share of revenue 'assessed upon them, the estate is liable to redistribution 'of the revenue, but to no repartition of the lands. There

'is no community of possession in such lands, which are inherited, transferred and possessed in severalty. Each 'estate is made up of independent freeholds, and each 'freehold made up of fields which sometimes lie contiguous, 'but more frequently are found scattered about and intermingled with the fields of other proprietors. These fields 'are often possessed by men of several different communities, 'of distinct families and tribes having no interest, either 'actual or contingent, in common, and no concern with each 'other but that of holding fields within the boundary of the 'same township, residing in a part of the same hamlet or 'paying, either through a common or separate representative, their portion of the revenue assessed upon the 'village. Still these men, though maintaining their individuality, belong to village communities, and the latter are 'not unfrequently composed of the descendants of a common 'ancestor. In such tenures the grazing land alone is held 'in common.'"

There are not many zamindari villages, and most of them are Government rakhs.

Superior and Inferior Proprietors.

The tenures of the district are inseparably connected with the former revenue administration. The mutual relations of the classes living on the land have been formed by the revenue system of the Sikhs and the British. The system has not adapted itself to the existing state of things, but has distinctly and abruptly interfered with it. At the head of the agricultural system is a large body of what are now called superior proprietors. Most of these are the descendants of tribes who came here for grazing at a time when the country was depopulated. With or without the leave of the Government of the time being, they occupied tracts the boundaries of which were not very clearly defined. Of this kind are the Thahims near Muzaffargarh, the Parihars of Kot Adu, the Khars of the Thal, the Chhajras and Dammars of Alipur and other tribes still occupying distinct tracts of country. Other superior proprietors are the descendants of *jagirdars* and former governors or officials who lost their position in troubled times, but were able to retain a right to a small grain fee in the tract over which they once exercised power. Others are the descendants of Makhdums and other holy men who formerly held land free of revenue, but whose rights have been circumscribed by successive Governments. The superior proprietors above described were from the first in the habit of introducing settlers to till the lands, but the great development of the settler class was due to Diwan Sawan Mal. When he took the farm of the revenues of this district from Ranjit Singh, he saw at once that cultivation could not be restored or increased by the representatives of former governors, holy men, broken-down *jagirdars* and

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loosely connected tribes whom he found in nominal possession of the lands. He therefore encouraged strangers and Hindu capitalists to sink wells, dig canals and cultivate the lands of nominal owners. At the same time, he secured to the latter a share of the produce, generally half a seer in each maund by weight, or one *pai* in each *path* where the crops were divided by measure. In some cases the old proprietors were strong enough to levy an institution fee when settlers were located on their lands. In this way two distinct classes of proprietors were formed—

(1) the old possessors, who were known as *zamindars* and *muqaddams*, and in modern official language *malikan ala* and *talukdars;* and

(2) the settlers, formerly called *riaya* and *chakdars*, and now generally *malikan adna*. The *chakdar* acquired his rights in the land by sinking a well.

The superior proprietors, *malikan ala*, claim to be owners of all unappropriated land, and entitled to a small share of the crop produced in the appropriated land. The *malikan adna*, who are full proprietors of the land in possession, subject to the payment of the share of the old proprietors, are not liable to eviction on failure to pay it, and are entitled to introduce tenants without reference to the superior proprietors. Since annexation, the fortune of the superior proprietors has varied. In some villages the tenure has disappeared. In others, especially where little unappropriated land was left, the lambardarship, which was a novelty, took the place of the superior proprietary right. The superior proprietors, as such, have no right to interfere in the management or the cultivation of the appropriated lands of a village. The settlement has in no case been made with them. Except where they are also inferior proprietors, their rights are restricted to receiving their fee in grain or cash and to disposing of the unappropriated waste in the village. The name of the superior proprietary right is *zamindari*, *muqaddami* or *milkiyat ala*. The share of the produce is *hak zamindari*, *hak muqaddami* and *malikana;* or more often the specific rate at which the share is fixed: *e.g.*, *adh-sera man* and *pai path* are used instead of the generic word. In Kot Adu and Leiah it is called *satten panwen*, or the seven quarters of a rupee, which equal Re. 1-12-0, the rate at which it is paid. The institution fee is called *jhuri sar-o-pa*, *pag* and *lungi*.

The Multani Pathans.

One set of superior proprietors was formed by the direct action of the British Government. They are the persons known here as the Multani Pathans. Under the Pathan governors of Multan a number of Pathans had settled in this

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district. They enjoyed grain allowances which were given as a deduction from the *mahsul*, or Government share of the produce. When the Sikhs in 1818 took Multan, the Pathans fled the country. In 1848 they joined Major Edwardes and rendered services in his operations against Mulraj. When the country had become quiet, the Pathans claimed restoration. The rules of limitation were set aside in their favour, and the board of administration prescribed rules "for the regulation of the trial of suits instituted by the Pathans of Multan for the recovery of their ancestral rights," of which the following is an extract:—

"Rule 2.—To establish the right of a party to sue, "irrespective of the statute of limitation on the merits of "his claim to repossession of *zamindari* property, he must "prove that he was a Multani Pathan present with Major "Edwardes' force, or that he is a member of a family of "Multani Pathans, some of the members of which family "were present with Major Edwardes' force."

In pursuance of these rules, cases continued to be heard up to December 1852, and Pathans obtained decrees for *kasur* (different from the *kasur*, or rent of the inferior proprietors, also so-called) in the villages of Jalalabad, Pipli, Ran, Khanghin, Mahra Faraz, Wafadarpur, Mahra Nasheb, Ghazanfargarh, Doaba, Jarh, Latukran, Langar Sarai and Lalpur. It was not observed at the time that under the Pathan governors this *kasur* was paid as a deduction from the revenue, and that, if the Pathans were to be restored under the altered state of things brought about by a cash assessment, the more just method was to have given them an allowance from the revenue, and not to have imposed a new grain cess on the cultivators. In 1853 the Deputy Commissioner reported that the exercise of the rights of the Pathans who recovered *kasur* paralysed the industry of the cultivators, and again in 1859 he said that the restoration of the Pathans to *kasur* rights was impolitic. The failure to define those rights had allowed them to encroach on the inferior proprietors and to ruin them. He instanced villages that had been ruined in this manner. The result was that in some villages the Pathans succeeded in ousting altogether the inferior proprietors; in others they reduced them to the position of tenants-at-will. When the inferior proprietors were too strong to be interfered with, beyond the enforced payment of *kasur*, the Pathans became superior proprietors.

Inferior Proprietors—*Adhlapi, Lichh* and *Kasur*.

The inferior proprietors in a village have usually no common ties of clanship. They are a miscellaneous body each member of which was originally introduced either by the Government or by the superior proprietors. In villages where superior proprietary rights exist, the inferior pro-

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prietor is usually entitled only to the land occupied by himself or his tenants. The unappropriated waste belongs to the superior proprietors. The inferior can graze his cattle in it, subject to the *tirni* rules, but cannot cultivate it without the leave of the superior. In other respects the tenure of inferior and absolute proprietors differs only in that, as regards the latter, the superior right has ceased to exist. The formation of new superior proprietorship where it has ceased to exist has of course long been impossible, but new inferior and absolute proprietors are constantly being made by the contract known here as *adhlapi* or *adlopi*. A proprietor allows a third person to sink a well in his land on payment of a fee, and to bring the land under cultivation. The person so sinking the well becomes proprietor of a share of the land brought under cultivation, or a person plants a garden on land and receives a share of the land under the garden. If an inferior proprietor cultivates through tenants, he receives a grain fee which is called *lichh* on the Indus and *kasur* on the Chenab. The rate varies with locality and in consequence of contract, but it is almost invariably one-seventeenth of the gross produce, and is known as *lichh solh satari*. Under former Governments the share taken by the State was the *mahsul*. Now the person who pays the land revenue receives the *mahsul*. This person may be by agreement the superior proprietor or the tenant, or even some person unconnected with the land; but, as a rule, the inferior proprietor pays the land revenue and receives the *mahsul*. For the purposes of settlement, he has been presumed always to pay the land revenue and to receive the *mahsul*, and his profits have been assumed to be the *mahsul* plus the *lichh* or *kasur*.

Proprietary and cultivating occupancy of land.

The table below, from the recent settlement report, shows the cultivating occupancy of land at the two settlements:—

Detail.	CULTIVATED AREA PER CENT.	
	At Settlement.	New.
1. Cultivated by owners	41	45
2. Cultivated by tenants paying no rent	..	2
3. Cultivated by occupancy tenants ..	8	5
4. Cultivated by tenants-at-will	51	48
5. Tenants-at-will paying cash rents	1	1
6. Tenants-at-will at revenue rates ..	4	2
7. Tenants-at-will paying other rents ..	46	45

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There has been little change; the occupancy tenants are found almost entirely in the riverain of Leiah and Kot Adu, where they were given security of tenure in return for the labour of clearing the heavy growth of scrub forest; they are usually at daggers drawn with the owners, who are doing their best to get rid of them.

The landlords complain that tenants-at-will are scarce, but there is little evidence of this, except on the derelict Karam Canal, from whence there has been migration to Kabirwala. The decrease of 3 per cent. in land cultivated by tenants, and the increase of 4 per cent. in that cultivated by owners, is probably due not to scarcity of tenants, but to the fact that most of the land broken up since settlement, especially in the Kot Adu and Leiah Tahsils, has been owned by large landlords, who prefer to cultivate through farm labourers than to cultivate through tenants, who have to grow fodder for their beasts.

In the Thal, except in the immediate vicinity of the towns and on a few wells south-west of the *Jandi*, no one cultivates who has not some interest in the Thal other than agriculture. Hence tenants are difficult to obtain, and have to be treated very leniently.

Except on the market gardeners' wells round the towns, cultivation is too precarious for cash rents to be taken, and throughout the district the tenants pay a share of the produce as rent : Indus land crops irrigated by lift pay one-quarter after deduction of the menials' dues ; crops grown on flood water pay one-third. In the richer Chenab lands the common rent is one-half. There are special rents for the expensive crops such as cane and tobacco, which usually pay one-quarter or one-sixth. Canal rates are invariably paid by the tenant. The owner usually gets at the most a nominal share of green fodder, and seldom any share of straw, though there is no uniform custom even on the wells grouped in a single estate.

The recorded rents are almost everywhere the same as at last settlement (see also chapter II-B).

Classes of Tenants.

Two classes of tenants existed before the first regular settlement—

Mundhimar, _Butemar_ and _Charhayat_ Tenants.

(1) Those who had by clearing the jungle and by bringing land under cultivation acquired a permanent right to cultivate. These are called *mundhimar* or *butemar*, and were, as a rule, recorded at the first regular settlement as tenants with rights of occupancy; and

(2) Those tenants who had been put in, with or without a term being fixed by proprietors, to cultivate

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land already cleared and fit for crops. These are called *charhayat*. They were usually recorded as tenants without rights of occupancy.

Tenants are now classified according to the language of the Tenancy Act of 1887. Land was so abundant at the first regular settlement that the occupancy status had no attraction for tenants. They preferred not to be tied to the land, and to be able to change their cultivation when they liked. In the Kot Adu Tahsil applications by tenants not to be recorded as having rights of occupancy were common, though they were by custom entitled to permanent possession. Circumstances have changed now, but tenants are still eagerly sought after, and, as a rule, free from any attempt on the part of the landlord to extort from them. Every effort is made to retain them. Some landlords study to get their tenants indebted to them in order to keep a hold on them. The share of the crop received by the tenants is called *raham*.

Exceptional Forms of Agricultural Status.

In addition to the usual forms of proprietors and tenants with their respective shares in the produce, there are certain exceptional forms of agricultural status which may be described.

Mahsulkhor.

It often occurs that an inferior proprietor, from indolence or inability to keep accounts and manage for himself, agrees with some third person, usually a village shopkeeper, that the latter shall receive the *mahsul*, pay the Government revenue out of it and keep the profit or bear the loss. Such a person is called a *mahsulkhor*. This arrangement was very common before the first regular settlement, but the class is dying out, and only a few solitary instances are to be met with now.

Lichhain

Lichhain means a cultivator who tills his land with borrowed bullocks and pays the owner of the bullocks half of the *raham*, or cultivator's share.

Anwahnda.

Anwahnda literally means "without working." Hence it means that share of the produce which a person connected with land receives without working, or forgoes because he has not done work which by custom was incumbent on him; *e.g.*, A lends B money, and, instead of getting interest in cash receives a share of the produce. That share is called *anwahnda* because A gets it without working for it. When a landlord has cleared the jungle and brought land under cultivation himself and then gives it to a tenant to cultivate, he takes an extra share of the produce because he has himself done the work which the tenant should have done. This share is called *anwahnda* because the tenant did not do the work of clearing. The word *anwahnda* of itself has no meaning without the history of the manner in which it accrued.

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Lichh, Khutti.

Lichh in its ordinary sense means the due of the inferior proprietor, and is synonymous with *kasur* as already described. But *lichh* also means the interest due on a mortgage of land when the mortgagor continues in cultivating possession, whether it be paid in grain or cash. Another kind of *lichh* is *valwin lichh*, *i.e.*, "returned *lichh*," which is also called *khutti*. When land is mortgaged to a Muhammadan, and the conditions of the mortgage are that the mortgagee shall cultivate the land, he agrees to pay a small share of the produce to the mortgagor. This share is called *valwin lichh* or *khutti*. The use of *lichh* to mean interest, and the practice of *valwin lichh*, are devices of Muhammadans to evade the charge of receiving interest, and are now in vogue among Hindus as well.

Lekha Mukkhi Mortgages.

Lekha mukkhi is the name of a kind of usufructuary mortgage in use. A debtor makes over his land to a creditor until the debt is paid from the produce of the land, or the debtor retains the cultivator and agrees to pay the proprietor's share to the creditor. In both cases the creditor charges the interest of the debt and expenses against the debtor, and credits him with the produce of the land or with the proprietor's share until the debt is liquidated.

Third Regular Settlement.

The third regular settlement was conducted by Mr. J. D. Anderson, I.C.S., from March 1921 to April 1925, and the following paragraphs are taken from his Settlement Report (1929). Chapter II-A and B should be referred to also in this connection. Fuller particulars will be found in the assessment reports of the tahsils.

Revision of Records.

The measurements made at last settlement were, as a rule, very accurate in the canal-irrigated parts of the three southern tahsils where the country is open and it was easy to lay out the squares which were the basis of measurement. Along the Chenab riverain, where there is seldom taller growth than tamarisk scrub, the same system was fairly successful, though creeks, and occasionally woods of thick *shisham* in places, threw the squares out of the straight. In the Indus riverain, where at last settlement there was heavy jungle, the measurements were inaccurate, so much so that several villages had to be remeasured after settlement without much improvement because the only system then available was unsuited to the natural conditions. At the first regular settlement the whole Thal had been surveyed on the square system; on account of its vast size, its sand-hills and the hardship undergone in the desert by the surveyors, the measurement was very inaccurate, the error in parts of the Kot Adu Thal being more than two miles. At last settlement this expensive and useless labour was not again undertaken, and only the cultivated land round the wells was

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measured, no effort being made to plot the position of the wells.

The district, for the purposes of measurement, thus fell into three parts: (1) the canal villages, in which there had been little change since settlement and the old maps were accurate; in these maps correction could be carried out quickly and correctly; (2) the riverain areas and a few canal estates which at settlement had been mapped inaccurately on account of the natural difficulties; and (3) the great waste of the Thal of which as a whole there was no satisfactory map, though the measurements of the isolated patches of cultivation were sufficiently accurate for practical purposes.

Measurement of the Thal.

The measurement of the Thal was made with great ease, accuracy and speed. Almost the whole of the Thal has been broken up into rectangles for the Sindh-Sagar Doab Canal, and most of the boundary stones of these rectangles are *in situ*. The area of the rectangles being known, all that was necessary was to plot the rectangles on a mapping sheet and to take offsets from the two nearest stones to each well cylinder. This work was done on a scale of 240 *karams* to the inch, which is too small for the practical work of patwaris. The cultivated land of each well was therefore measured separately on the scale of 40 *karams* to the inch, the position of the well cylinder only being recorded in the small-scale map. Since there are no permanent boundaries in the Thal, and most trijunction pillars have long been destroyed or buried under sand, the boundaries of the estates were of necessity plotted from the map of the first settlement.

Measurement of Riverain Villages.

The remeasurement of the riverain areas was carried out with the help of the Survey of India, who prepared the sets of mapping sheets, the one showing only the boundary of the district as laid down at last settlement and in the last settlements of the adjoining districts. The purpose of these sheets was the determination of the fixed district boundary. Once this work, which was onerous on account of the wrong measurement at last settlement, was finished, these sheets were filed in the record-room.

The second set of mapping sheets was that made for the use of patwaris; in them a great number of triangles was plotted out, the size varying with the nature of the country, and the angles, whenever possible, being fixed points such as wells. With the aid of these sheets, which do away with all the sources of error inseparable from measurements on a square system in riverain areas, measurements were made with great ease and accuracy. Unfortunately, at first, a system had been introduced for preparing the records based on this triangulation which was not suited to the circumstances of the district. The patwaris entered in pencil in

the sheets the fields which they found on the ground, and prepared *khataunis* based on this measurement. Later in the season, when the floods came out and it was impossible to do work in the villages, the patwaris retired to the head-quarters of their naib-tahsildar and began the preparation of the permanent record. With the aid of the fixed points, the measurements of the previous settlements were traced on the new sheets, and permanent *khataunis* were then made, of necessity without the knowledge of the landowners. This system would be unobjectionable, provided the old measurements were correct; but, since in the majority of the riverain estates of the Muzaffargarh District the old measurements were wrong, it caused a sad mess, since, even when there has been no change at all in the fields since settlement, the wrong measurements both alter the shapes of the fields and place them in wrong positions. Through the fault of the system, although an owner might be in undisturbed possession of his entire field, he would be shown as a trespasser in half the area in his possession, and as having lost the half of his rightful field from the trespass by his neighbour on the other side. The result was a nightmare map and a record full of numbers which had no existence in fact, but were created in a mad attempt to reconcile two sets of measurements, preference being given to that which was known to be wrong. Mercifully, the faults in this system were detected sufficiently early for the work to be corrected, or, where necessary, to be done a second time. Later, the following procedure was adopted: on the receipt of the plotting sheets from the Survey Department, sufficient fixed points were laid down to enable the patwaris to plot out the squares and fields of the old measurement. They then went to the spot and measured the estate in the ordinary way in the presence of the landowners who, before measurement began, were called on to declare any disputed boundaries. There never were any since in the riverain estates the memory of the owners is tenacious, and trespass is never permitted; no one ever tried to take advantage of the old inaccurate measurements, and to do so would usually have been suicidal since invariably what would have been gained on one side of the number was lost on the other. Whereas by the old system the real fields found on the spot were tortured to make them conform to the old mistakes, by the new system the records were brought into conformity with the real fields.

Remeasurement and Revision.

Except in the Thal, *janch partal* files were prepared in all estates and parts of estates safe from riverain action. In a few estates in the three southern tahsils revision was found to be impossible, and remeasurement was made by squares. Everywhere else revision was found suitable, and was carried out in the usual way.

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The tables below show the number of villages, with details of fields and areas measured either wholly or in part by each system. Except the small-scale maps of the Thal, all measurements were on the scale of 40 *karams* to the inch. There were no urban areas to be measured:—

(1) Revision.

Name of tahsil.	Number of villages.	Number of khasras.		Area of last settlement.		Present area.	
		Old.	New.	Cultivated.	Uncultivated.	Cultivated.	Uncultivated.
				Acres.	Acres.	Acres.	Acres.
Muzaffargarh	309	365,248	426,104	142,917	271,145	141,092	271,806
Alipur ..	115	218,893	275,607	95,021	187,000	116,957	171,411
Kot Adu ..	116	154,046	266,277	95,732	609,125	110,833	593,424
Leiah ..	66	159,001	159,205	94,032	677,603	94,193	77,454
Total ..	606	897,188	1,127,193	427,702	1,744,873	463,075	1,114,095

(2) Remeasurement by riverain system.

Name of tahsil.	Number of villages.	Number of khasras.		Area of last settlement.		Present area.	
		Old.	New.	Cultivated.	Uncultivated.	Cultivated.	Uncultivated.
				Acres.	Acres.	Acres.	Acres.
Alipur ..	89	103,885	142,643	75,680	227,459	82,672	217,472
Muzaffargarh	96	61,360	83,473	62,365	107,498	56,315	112,701
Kot Adu ..	33	45,515	69,342	41,029	74,492	28,086	86,771
Leiah ..	31	49,492	51,250	32,864	75,217	30,735	77,182
Total ..	249	260,252	346,708	211,938	484,666	197,808	494,126

(3) Remeasurement by squares.

Name of tahsil.	Number of villages.	Number of khasras.		Area of last settlement.		Preent area.	
		Old.	New.	Cultivated.	Uncultivated.	Cultivated.	Uncultivated.
				Acres.	Acres.	Acres.	Acres.
Alipur ..	3	3,022	8,902	2,705	6,926	4,991	4,445
Muzaffargarh	3	496	753	451	520	477	494
Kot Adu ..	4	914	4,484	698	2,970	2,370	1,220
Leiah ..	..	..	..	..	..	..	..
Total ..	10	4,432	14,139	3,854	10,416	7,838	6,159

(4) *Remeasurement by the Thal system.*

Name of tahsil.	Number of villages.	NUMBER OF KHASRAS.		AREA OF LAST SETTLEMENT.		PRESENT AREA.	
		Old.	New.	Cultivated.	Uncultivated.	Cultivated.	Uncultivated.
				Acres.	Acres.	Acres.	Acres.
Kot Adu ..	2	3,081	8,092	1,836	14,209	4,609	11,867
Leiah ..	73	91,480	91,593	36,695	1,229,963	50,928	1,214,666
Total ..	75	94,561	99,685	38,531	1,244,172	55,537	1,226,533

Other Maps.

In addition to the copy of the maps prepared for the tahsils, tracings on wax paper were made for the patwaris of all riverain estates for use in matters of alluvion and diluvion. Every patwari was given a tracing on cloth for crop inspection, etc.

Index maps on the scale of 240 *karams* to the inch were prepared for each *Part sarkar;* during the first year duplicates were also made, but later on were given up as unnecessary. Maps on the scale of 960 *karams* to the inch were made for each village notebook.

Record-of-Rights.

The following documents are included in the record-of-rights:—

(1) the preliminary proceedings, citing the notification of the local Government sanctioning the new settlement, and giving the date of the beginning and end of the measurement and of the attestations by the different officials;

(2) the field maps;

(3) the genealogical table;

(4) the index of fields;

(5) the index of owners;

(6) the record-of-rights itself, including all mutations decided up to the time of attestation by the naib-tahsildar;

(7) the mutations decided after the preparation of the last *jamabandi*;

(8) the statement of revenue assignment;

(9) the statement of rights in wells;

(10) the order of the Settlement Officer determining the assessment; and

(11) the Settlement Officer's order of distribution of the assessment.

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In addition, a separate record-of-rights was prepared for date-palms. The enumeration of the trees cost much time and trouble; and, where the palms grow thickly in large groups, the count probably was not accurate. In a number of estates the trees were counted three times or more, and the difference each time was considerable; as a result of these mistakes, the assessment actually imposed does not agree with the proposals submitted by the Settlement Officer, nor with the orders passed by Government. It was necessary not only to count the trees, but also to grade them into different classes, each tree paying a different assessment according to the class in which it was graded. Many mistakes in this classification, made either with intention or by accident, were detected, but many more must have passed unnoticed since supervision of the patwaris was very difficult. The number of palms in the records-of rights, together with a comparison of the numbers of trees at last settlement and at this, is given in the statement below:—

Name of tahsil.	Number of villages.	Number of old palms at settlement.		Now.	
		Females.	Others.	Females.	Others.
Muzaffargarh	332	469,396	2,096,729	602,372	135,923
Alipur	167	173,116	563,686	281,095	127,763
Kot Adu ..	147	188,345	827,040	339,513	424,580
Leiah	115	65,932	9,875	80,517	12,590
Total ..	761	896,789	3,497,330	1,303,497	700,856

At last settlement a separate *jamabandi* of mango trees was prepared, but with some misgiving the Settlement Officer recommended that it should be abolished and the details incorporated in the ordinary record-or-rights. Both this *jamabandi* and that of the palms have never been properly maintained or checked, with the result that both were obsolete long before the new settlement. Owing to the number of palms, it was impossible to incorporate them in the ordinary record-of-rights, but mangoes are not very numerous.

At last settlement the statements regulating the labour to be supplied by each landowner for the maintenance of the canal were prepared; but, since the old system by which labour was supplied by the users of water has now been

abandoned, this document was unnecessary at this settlement.

Progress of Work of Settlement.

The table below shows the number of records-of-rights prepared each year:—

Name of tahsil.			1920-21.	1921-22.	1922-23.	Total.
Muzaffargarh	..	..	208	204	..	412
Alipur ..	..	..	93	86	28	207
Kot Adu	..	..	..	74	81	155
Leiah ..	..	..	..	79	91	170
Total		..	301	443	200	944

The work of remeasurement began in Alipur and Muzaffargarh in October 1920, and in Kot Adu and Leiah in October 1921. It was finished in the spring of 1923, and all records-of-rights were filed by the end of that year.

Village Note-books.

New village notebooks for each village were prepared, and the table below shows the year in which the work was done by tahsils:—

Muzaffargarh.	Alipur.	Kot Adu.	Leiah.
1921-22.	1921-23.	1922-23.	1922-23.

Boundary Disputes.

There were in all 57 boundary disputes with the districts of Multan and Dera Ghazi Khan and the Bahawalpur State. The cause of the majority was the wrong measurement, but the differences were not usually large, and the land in dispute was almost invariably barren river-bed. All cases were settled amicably.

Mutations.

The table below shows the number of mutations decided each year in each tahsil during the settlement:—

Year.		Muzaffargarh.	Alipur.	Kot Adu.	Leiah.	Total.
1920-21	..	8,786	9,286	4,401	5,286	27,759
1921-22	..	12,155	10,673	6,809	7,123	36,760
1922-23	..	5,454	3,915	5,211	9,346	23,926
1923-24	..	7,622	6,588	2,442	2,360	19,012
1924-25	..	1,958	3,275	1,412	2,510	9,155
Total	..	35,975	33,737	20,275	26,625	116,612

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Customary Law.

At last settlement a code of tribal custom was compiled of which the chief defects were the small number of instances and the vagueness of the questions. A new code has been drawn up in which the questions were borrowed almost entirely from Mr. Emerson's code prepared in the Multan settlement. A special effort was made to support all answers with instances.

Fiscal History—Before Annexation.

The different Muhammadan dynasties which held sway in the district, either as independent sovereigns or as feudatories of Kabul and Delhi, are remembered chiefly as the builders of the ruined forts which dot the district. The fiscal history of Muzaffargarh really begins from the administration of Diwan Sawan Mal, who held the province of Multan under Maharaja Ranjit Singh. He is remembered as an indefatigable builder of canals and wells and for the strict supervision which he exercised over his *kardars*. His method of assessment in the irrigated parts of the district was to take the share of the produce, usually one-quarter, which he sold to the cultivators at commutation prices fixed each harvest, except in the estates near Multan town, from which the assessment, being needed for the food of the garrison, was taken in kind. In addition to the revenue proper, a large number of cesses was imposed, but remitted, either wholly or in part, except in good seasons. Cash rates, which varied from village to village, were imposed on the most valuable and certain crops such as cane and tobacco. In the Thal, where the cost of the division of the produce of the scattered wells would have been out of all proportion to the amount realized, a cash assessment was placed on each well, the norm being Rs. 12 recovered in instalments of Rs. 5 in the kharif and Rs. 7 in the rabi. The Diwan's assessment was heavier than any which has since been worked successfully, but it had the advantages of being based on actual outturns and actual prices; and, if tradition is to be believed, it was tempered to the cultivator in a way which can be done only by the benevolent autocrat. The time of Diwan Sawan Mal is remembered throughout the district as an age of gold.

Summary Settlements.

After annexation, there were three short-lived summary settlements, of which the first was based on the average collections of the Diwan. Since these were high, and since the great merit of his system was that he avoided averages and worked on actuals, though the new demand was less than he had taken, it proved to be more than the cultivators could pay in good and bad seasons alike, and in the two later summary settlements it was considerably reduced; for example, in 1850 the demand in Leiah was fixed at Rs. 1,28,496, which in 1853 was reduced to Rs. 1,22,793, and in 1862 to Rs. 95,763. In spite of these reductions, the

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time of the summary settlements is remembered as one of great misery because, although the demand was low, the method of assessment was wrong, and from this period date most of the numerous Government rakhs which stud the district, and are estates abandoned by the owners.

First Regular Settlement.

The assessment of the district was put in order in the first regular settlement which was carried out in the three southern tahsils by Mr. O'Brien in 1870—78 and in Leiah by Mr. Tucker in 1872—78. The method of assessment was the imposition of a fixed demand on all holdings not subject to riverain action, and in the riverain estates of a fluctuating assessment by soil-rates. Since the Settlement Officers were allowed almost as much time for the work of one tahsil as is now given for the settlement of the whole district, it is not surprising that the chief feature of these settlements is the detailed local knowledge shown by the Settlement Officers of the land and of its people. Mr. O'Brien's settlement is gratefully remembered by the people because of the justness of the distribution of the revenue over holdings. Throughout the riverain circles of all four tahsils, and the canal-irrigated tracts of the three southern, the assessment worked admirably, and the years between 1880 and 1900 were of great prosperity. In the Thal, however, the system of fixed assessment, by which all owners were jointly and severally responsible for the revenue of the entire estate, proved unsuited to the special conditions, and broke down utterly after a succession of bad seasons.

Second Regular Settlement.

The second regular settlement of 1900 was carried out in the three southern tahsils by Pandit Hari Kishan Kaul, P.C.S. (now Raja Hari Kishan Kaul, C.S.I., C.I.E.). In Leiah the work was begun by Captain Crosthwaite, I.A., who inspected the estates and submitted proposals, but died before the work was finished; the assessment was completed by Pandit Hari Kishan Kaul. Three methods of assessment were adopted to suit the different conditions of, first, the Thal; secondly, of the canal-irrigated estates which were regarded as secure; and, thirdly, of the insecure canal-irrigated estates and those irrigated by flood from the rivers; the method of assessment in the riverain of Leiah, which Pandit Hari Kishan Kaul inherited from Captain Crosthwaite, is rather different from that devised by Pandit Hari Kishan Kaul for the southern tahsils.

The Thal Assessment.

In the Thal the unit of cultivation is the well, and the different wells which are grouped together to form an estate have no connection one with the other; the system of assessment by estates was therefore abandoned, and a return made to that of Diwan Sawan Mal, though with various improvements. Each holding on a well was separately assessed to

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a fixed sum, collected every year, provided that not less than half an acre was cultivated, or, if the holding is a complete well, one acre. The waste lands in each estate were assessed to revenue on the grazing, and the few palms found on the wells of the *Jandi* Circle nearest to the riverain were also assessed. The land revenue and that on palms is paid in the rabi and that on the grazing in the kharif. The assessment on grazing was to be treated as a maximum, and relief was to be given in bad years; but, in practice, the demand has always been easily paid.

Secure Canal Estates.

The fixed assessment which Mr. O'Brien had put on all estates protected from the action of the rivers was maintained by his successor in the *Pakka* and Thal Circles of the Muzaffargarh Tahsil, and in the *Pakka* and *Nahri* Thal Circles of the Kot Adu Tahsil; he changed it in Alipur, except in parts of three estates. The assessment was first calculated for each estate; next the holdings were graded, the number of grades depending on the circumstances of the estate, in a large one being as many as seven. Rates were then determined for each class, and, with their help, the revenue was distributed over the holdings. Wells which had been sunk after the previous settlement were given remission of the difference between the *nahri* and *chahi-nahri* rates up to a period of 20 years; a similar remission was to be granted to the lands of wells falling out of use; a water-advantage-rate of 10 annas an acre was to be imposed on all lands not *nahri* at settlement to which subsequently canal water might be given. Date-palms and mangoes were separately assessed, as was also the village waste.

Assessment of Insecure Estates.

The canal-irrigated estates of the Alipur Tahsil which Mr. O'Brien had placed under fixed assessment were assessed by Pandit Hari Kishan Kaul as though they had been riverain estates on account of their insecure canal supply. He maintained a fixed assessment only on the lands immediately surrounding the towns of Alipur, Jatoi and Shahr Sultan. With the exception of this very small area, the whole of the Alipur Tahsil, and the insecure portions of the Chenab and Indus Circles of Muzaffargarh, together with the Indus Circle of Kot Adu, were assessed in the same way. In place of the old soil-rates, crop-rates were framed, the garden crops with wheat, cotton, cane and indigo being grouped in one class, and the inferior food-grains and fodder in the second; that very inferior grain, *samukka*, was placed in the third class by itself. Since, however, it was found that some wells and holdings were superior to others in the same estate, and it was estimated that *chahi-nahri* and *chahi-sailab* crops were better than those of the same kinds to which well water was not given in addition to the crop-rates, a fixed sum was placed on each well, the wells in each estate being graded according to

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the area irrigated and the quality of the crops grown. New wells were given a remission of this fixed well assessment up to 20 years, and rules were framed for the grant of proportionate relief to old wells repaired and brought into use. Palms and grazing were separtely assessed.

In the *Kachha* and *Pakka* riverain circles of the Leiah Tahsil the system was rather different since no fixed well assessments were imposed, and the crops were classified into three classes, the inferior food-grains and oil-seeds being separated from the fodders. Since, however, the Settlement Officer found a difference in the productivity of different wells, except in the most insecure estates, the wells were graded, and on the first-class crops of the better, that is to say, in practice, on the wheat, special rates of 2, 4, 6 and 8 annas an acre were imposed according to the class of well.

Old Demand.

Under these methods of assessment the revenue of the tahsil fluctuates considerably from year to year, with, on the whole, an upward tendency, as the periods of remission of new wells expired and canal irrigation was extended; in 1924-25, the last year of the old settlement, the assessment, excluding *malikana* and date revenue, was—

——	Leiah.	Kot Adu.	Muzaffargarh.	Alipur.	Total.
	Rs.	Rs.	Rs.	Rs.	Rs.
Assessment ..	1,09,539	1,49,888	2,80,352	1,96,698	7,26,477

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Including revenue of all kinds, the average collections have been—

Year.	Fixed.					Fluctu	
	Leiah.	Kot Adu.	Muzaffargarh.	Alipur.	Total.	Leiah.	Kot Adu.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1913-14 ..	8,945	1,11,077	2,26,194	17,867	3,64,083	1,44,849	50,470
1914-15 ..	8,821	1,05,694	2,25,585	16,057	3,56,157	1,35,482	46,876
1915-16 ..	8,790	1,14,911	2,22,120	15,541	3,61,362	91,357	51,894
1919-20 ..	8,585	1,13,834	2,44,066	12,878	3,79,363	96,279	51,605
Total ..	35,141	4,45,516	9,17,965	62,343	14,60,965	4,67,967	2,00,845
Average	8,785	1,11,379	2,29,491	15,586	3,65,241	1,16,992	50,211

including assigned revenue, for the selected years have

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ATING.			TOTAL.				
Muzaffargarh.	Alipur.	Total.	Leiah.	Kot Adu.	Muzaffargarh.	Alipur.	Total.
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1,13,322	2,35,198	5,43,839	1,53,794	1,61,547	3,39,516	2,53,065	9,07,922
1,04,120	2,18,947	5,05,425	1,44,303	1,52,570	3,29,705	2,35,004	8,61,582
1,06,781	2,19,142	4,69,174	1,00,147	1,66,805	3,28,901	2,34,683	8,30,536
1,02,773	1,74,686	4,25,343	1,04,864	1,65,439	3,46,839	1,87,564	8,04,706
4,26,996	8,47,973	19,43,781	5,03,108	6,46,361	13,44,931	9,10,316	34,04,746
1,06,749	2,11,991	4,85,945	1,25,777	1,61,590	3,36,240	2,27,579	8,51,186

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Working of Settlement.

When the new assessment was imposed, the Thal was desolate, and the demand was pitched low in order that the tract might be given an opportunity to recover. The justice of the assessment has been demonstrated by the general recovery of the whole Thal during the last 20 years. Throughout the rest of the district there was at this settlement a general complaint by the revenue-payers against what at the time of assessment was probably the most admired feature of the old settlement, the elaborate assessment by wells. At settlement it was assumed that, as a rule, the characters of the wells were permanent, and that it was safe to grade them and to place very heavy assessments on the best. This assumption is not justified in the peculiar circumstances of Muzaffargarh, where the area sown and the kinds and quality of the crops are alike determined not by the well, but by the flood supply, whether direct from the rivers or through the canals. Wells cannot be worked during the summer, and the kharif harvest is entirely dependent on the floods; in the rabi the area sown varies with the amount of the flood; and, whatever it may be, the crop will not be profitable unless the well is helped by sufficient rain. In these circumstances, since the flood supply is in most estates very different from what it was at settlement, almost the only wells of which the grading was correct 20 years after settlement were those exceptional ones immediately round the small towns, where the crops are dependent rather on the plentiful manure which is available, than on the water-supply. In the Leiah riverain most of the best wells were at settlement those under the high bank of the Thal; and these, owing to the swing of the river to the west, now, as a rule, get too little flood, and, except immediately under the towns, are the worst in the circle. In the Kot Adu *Pakka* Circle cultivation has changed from moderate wheat to good rice followed by gram, and the grading made at settlement had ceased 20 years later to bear any relation to reality; though, since, as a whole, the circle had greatly improved, the revenue was so light that its unequal incidence was of little practical importance. In the *Nahri* Thal Circle, though the change in cropping was less marked than in the *Pakka*, the grading had grown almost equally wrong, though here too there has been marked improvement, and the incidence was of little practical importance. In the Kot 'Adu Indus Circle the construction of protective embankments and of canal escapes, together with the clearance of much jungle, have changed the conditions of the circle, and, generally speaking, the worst wells in 1923 were the heaviest assessed. Further south, in the Indus Circles of Muzaffargarh and Alipur, the general tendency of the river has been to withdraw towards the west, and the well assessments in 1921-22 were seldom correct. In the Chenab Circles of the two southern tahsils the river has been swinging

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to the west; while, on account of the extension of perennial irrigation in the Punjab, the floods are less dependable than of old; at settlement the higher lands were, as a rule, the better, whereas now the lower produce the best crops; in these circles also the heaviest well assessments were, as a rule, found on the worst wells. In the *Pakka* Circle of Muzaffargarh the wells irrigated from the Chenab canals had suffered in much the same way as those which get their flood direct from the river, though, as a rule, to a greater extent, particularly on the Hajiwah Branch of the Taliri Canal. In the estates of Muzaffargarh and Alipur irrigated from the tail of the Maggi, the Ghuttu, the Puran and the Suleman the changes in the quality of the wells were very marked, though less extreme than on the Chenab side of the district, except at the tail of the Maggi and the Ghuttu, where the supply is worse than at settlement. Conditions in the Thal Circle of Muzaffargarh were generally similar to those of the *Nahri* Thal of Kot Adu. The position would have been more serious were it not for the peculiar character of the revenue-payers who, as a rule, fall into two classes. Generally speaking, it mattered little to the large landowners that their worst wells were more heavily assessed than their best since the general pitch of the assessment was not excessive, and what they lost on one well they gained on another. So too, in practice, though the small holder might be paying four times a fair assessment or only a quarter of it, the amounts involved were usually too small to make any real difference to his financial position. None the less there was a universal complaint against the assessments based on the grading of the wells, and there is no way in which the system can be defended. It is true that there is a great difference in the different holdings in all the circles, but, under the existing conditions of flood supply, the only thing which is certain is that 20 years hence it is most unlikely that the status of any single holding will be what it is now.

Assessment Circles.

The assessment circles, as a rule, correspond to natural divisions of cultivation, and no change in them is either possible or desirable. In each of the four tahsils there is an Indus Circle, in which cultivation depends mainly upon the flood from the river. In the Leiah Tahsil this circle is sub-divided into *kachha* and *pakka*, of which the former is the portion of the riverain which gets flood direct from the river; the latter is the area to the east of the largest creeks, and in a usual year receives spill from them, and not from the main river. This division into two circles is scarcely necessary, but is unobjectionable, and its retention is convenient. In Muzaffargarh and Alipur the estates which depend on the flood from the Chenab are grouped into Chenab circles. The Thal *Kalan* of Leiah and the *Chahi* Thal

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of Kot Adu are the unirrigated estates, which are pastoral rather than agricultural. The *Jandi* Thal of Leiah is distinguished from them by its greater fertility, crops of a better class and the dependence of its inhabitants on tillage rather than on flocks. The *pakka* circles of the three southern tahsils consist of the estates protected from direct river flood, and irrigated by the inundation canals. The *Nahri* Thal of Kot Adu is a small circle of estates to which canal irrigation was extended between the first and second settlements; its eastern border is *chahi*, and can hardly be distinguished from the adjoining *Chahi* Thal; on the west it merges into the canal-irrigated *Pakka;* in the middle are strips of cultivation separated from one another by sand-hills; most of the circle is the property of rich landlords who are developing it rapidly; if improvement continues at the present rate, it should be impossible after 20 years to distinguish this circle from the *Pakka*, but as yet there is a considerable difference between them, and the old circle had to be maintained. The adjoining circle across the Muzaffargarh border is the Thal Circle of that tahsil, of which about half the estates cannot now be distinguished from their neighbours in the *Pakka*, though in the remaining half sand-hills are high and plentiful, and the wild vegetation is that of the Thal, and not of the riverain. This circle also is improving, though less rapidly than the *Nahri* Thal; its retention was desirable, although its boundaries are far less marked than at last settlement.

The only circle which has been abolished is the old *Chahi-Sailab* of the south of the Alipur Tahsil. At settlement irrigaton from the Suleman was very uncertain, and the whole of the tahsil south of Jatoi and Alipur was liable to be swept by floods from the Indus. The set of the river is now towards the west, the protective embankment has been improved and the irrigation from the Suleman is usually plentiful and timely so that, although the crops grown are inferior to those of the middle of the tahsil, the estates included in the old circle are now definitely *nahri* in character, and the retention of the old circle was unnecessary.

None of the riverain and *Pakka* circles is homogeneous since canal irrigation begins outside the protective embankments which intersect estates so that half of a village may be canal-irrigated and the other half riverain; furthermore, creeks run through the centre of the district, and on their banks cultivation is riverain in character.

It would have been desirable to divide the *Pakka* of Muzaffargarh Tahsil into Chenab and Indus circles since the soils, crops, water-supply and methods of irrigation are different on the two sides of the tahsil. The division would be most difficult to make as to the south of Muzaffargarh town many estates get

irrigation from both series of canals; but the lumping of all the canal-irrigated estates, irrespective of their source of irrigation, into a single circle gives a false picture of the tract. The Settlement Officer did not realize this until he came to inspect the estates for assessment, by which time it was too late to submit any proposal for a sub-division of the old circle.

Soil Classification.

The so-called classification of soils in the district has always been by the method of irrigation. The simple classes are *sailab* (flood from the river or creek), *nahri* (flood from an inundation canal), *chahi* (by lift from a well) and *barani* (rain). When the land lies high above the canal or creek, the water has to be taken out by lift, and *sailab* and *nahri* change into *abi* and *jhalari*. By combination from these simple classes, *chahi-nahri*, *chahi-jhalari*, *chahi-sailab*, *nahri-abi* and *jhalari-abi* are made.*

The semi-permanent classes of soil recorded in the *jamabandis* are of no use for purposes of assessment, which has to be made with the help of the entries in the records of crop inspections in which the matured and failed areas of each crop are recorded, with the methods of irrigation employed at each harvest.

Selected years.

At the beginning of settlement the selected years taken were 1913 to 1916 and 1919 to 1920. The years between 1916 and 1919 had to be excluded since during the later years of the war the condition of the district was abnormal. Over about half the district the Muhammadans rose against the Hindus, looted several towns, burnt account books and for the time being upset the system by which the agriculture of the district is financed; later, efforts to raise recruits from people who had never previously been enlisted in the army dislocated the ordinary life of the countryside. When the Settlement Officer came to work with his selected years, he found that they gave an untrue picture of the district. The Thal had prospered enormously during the war, and the greater part of its improvement was not shown in the figures of the selected years, which also failed to show the change in the Kot Adu *Pakka* from what to rice and gram; on the other hand, the critical year on the Chenab side of the district was 1915-16, since when crops, cattle and people have declined; this decline was not shown in the selected years, nor was the effect of the western swing of the Indus in the Muzaffargarh and Alipur Tahsils. In practice, he was compelled to use the last five years, a time of sickness, financial stringency, political unrest and economic upset, understood neither by the cultivators nor the bankers. They did, however, give a picture which corresponded to reality.

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*See page 262 for a statement showing the area of each kind in the district.

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Commutation Prices.

Commutation prices had to be fixed during the years of scarcity and of high prices which followed after the war; wheat at the time was selling at from Rs. 8 to Rs. 10 a maund, with the prices of other agricultural produce in proportion, and it was impossible to foresee what real prices would be. Those sanctioned are shown in the table below:—

In annas per maund.

——	Leiah.	Kot Adu.	Muzaffargarh.	Alipur.
Rice	24	24	24	24
Jowar	30	30	30	..
Bajra	30	28	30	30
Til	80	80	80	30
Cotton	80	80	80	80
Indigo	..	1,024	1,024	1,024
Wheat	40	40	40	40
Barley	26	26	28	26
Gram	32	32	58	32
Ussun	49	49	..	..
Other oil-seeds	49	49	49	..
Fodder	..	..	120	..

In view of the general uncertainty, little differentiation was attempted between tahsil and tahsil, except for a few crops of the Muzaffargarh Tahsil, which are grown for the most part in a group of villages on the east bank of the Chenab near Multan town, and fetch prices not dreamed of in the rest of the district; in these villages green fodder is a most valuable crop, whereas in the rest of the district no more is grown than barely suffices for the cultivators' own working cattle. The prices in general are slightly below those assumed for the neighbouring district of Multan, in which the crops, as a whole, are rather better than in Mazaffargarh, and the facilities for marketing them are far superior. The calculated rise in prices since last settlement was 38 per cent.

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The assumed yields for the principal crops are given in the table below:—

Name of Crop.	Chahi.	Chahi-Nahri.	Chahi-Jhalari.	Nahri.	Jhalari.	Chahi-Sailab.	Sailab.	Barani.	Abi.	Nahri-Abi.	Jhalari-Abi.
Rice ..	..	440—640	560—640	400—640	440—640	480	360—560	..	420—560	440—640	440—560
Jowar ..	200—280	160—240	200—280	160—240	200—240	160—280	140—240	..	160—240	160—240	200—240
Bajra ..	160—280	160—240	200—280	160—280	200	160—280	140—280	..	160—240	160—200	200
Til ..	140—240	120—140	120—140	120—240	120—140	120—240	100—240	..	120—140	120—140	120—140
Cotton ..	80—200	140—180	140—200	100—200	100—140	120—200	80—120	..	120—140	100—140	100—140
Indigo ..	..	12—13	12—13	11—13	12—13	..	..	..	13	11—13	12
Wheat ..	320—360	340—400	320—400	280	280	320—360	200—260	..	280—330	280	280
Gram ..	160—240	160	160	160	160	200—240	160—220	160—220	160—200	160	160

The majority of these yields have come down unchanged since the first regular settlement, and have stood the test of experience. They have been changed only in a few cases where, at last settlement, some unnecessary refinements had

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been introduced in an uncommon soil classification. As it is, the table is too elaborate since such crops as *chahi-nahri* rice and gram are an occasional accident, or more probably a mistake in classification by the patwari. The assumed yields, as a whole, are very low in a good season, but the greatest difficulty in the district is that there are no true averages, and nature works by extremes, so that there is no standard of outturn, either from year to year or from estate to estate. This uncertainty is the cause of the complaint against the rules for remission on account of crop failure.

Landlords' Receipts.

Cash rents are taken in the case of only 1 per cent. of the cultivated area, *i.e.*, from the market gardens round the towns, and are useless as a guide for fixing profits in the remaining 99 per cent. of the district.

The owners' share of the produce had to be calculated on the assumption that all crops matured were paying rent in kind; since the rents of the most important crops vary with the irrigation, as also do the deductions, the calculation had to be made for each class of soil separately; for example, nothing is paid from *sailab* wheat to the potter, and the allowance of green wheat given to the tenants' cattle is smaller than that from *chahi-sailab* wheat. Turnips and the early kharif fodders which are grown entirely for the working cattle were excluded altogether from calculation, except in the Chenab villages near Multan City, where they are grown for sale in the market and are a valuable crop. The general result of the calculations was to show that in a normal year, owing to the higher rates of rent and smaller deductions, the profits to the landlord from crops which received no well water are not less than from well-irrigated crops. This conclusion is to some extent supported by the preference which the tenants show for *sailab* land; in the Muzaffargarh Chenab Circle, which except in a bad season is predominently *sailab*, no less than 80 per cent. of the cultivated area is held by tenants, or 30 per cent. more than the figure of the district, as a whole, and in all the riverain circles the percentage of land cultivated by tenants is higher than in the adjoining canal circles; it must, however, be remembered that most of the owners live in the *Pakka* circles and prefer to cultivate their home lands, and also that many tenants can afford the cheaper *sailab* cultivation who have not the cattle to work a well at a profit.

Owing to the configuration of the district, there is practically no canal-irrigated land situated at more than 10 miles' distance from the river whence the canals are derived, and there are few long irrigation channels. In these circumstances, the cost of silt clearance is nowhere large, and falls either on the tenants, or is done by the labourers, whom the owner is compelled in any case to keep for efficient cultiva-

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tion; only in exceptional circumstances is it a special charge on the landlord. From the experience gained during the settlement, there is no reason to suppose that cultivation through farm labourers is less profitable than through tenants.

Grounds for Enhancement.

The one ground for enhancement common to the whole district is the undoubted rise in prices. In the Thal the general revival of prosperity shown by the numerous new wells sunk, and old wells repaired and brought into use, is a further reason for raising the revenue, though, since the wells depend on flocks and the flocks in turn depend on the grass which springs up after rain, it is inadvisable to pitch the demand too high since the succession of three bad seasons might undo all the gradual progress of the last 20 years; owing to the extension of canal irrigation in the Jhang District, there are now no alternative grazing-grounds to which the sheep and goats of the Thal can be driven in a bad season. A large proportion of the cultivators of the Leiah Indus Circles have shared in the prosperity of the Thal; and, though their flood supply is worse than at settlement, they are as a body probably more prosperous. In the Kot Adu Canal Circles there has been a considerable increase in the cultivated area and a much greater increase in produce owing to the new *dofasli* cultivation. Except in the depression round Sanawan town, where water-logging has caused deterioration in the soil and also in the health of the people, these two circles are very prosperous, and the standard of living is certainly higher than at settlement; wells, crops, cattle and population are all better; and, though the soil and water-supply are such that the best crops cannot be grown in this area, and in fact water-logging is destroying the few orchards which already exist, there is room for considerable enhancement of the assessment. The northern half of the Kot Adu Riverain Circle is, on account of water-logging, less good than it was at settlement, but south of Sanawan there has been an extension of canal irrigation, and the circle, as a whole, is no worse than at settlement. Most of the revenue-payers in it also own land in the *Pakka*, and have shared in the improvement of the tahsil. The Thal Circle of Muzaffargarh has advanced with the adjoining part of Kot Adu, but, on the whole, to a less extent since it has more irrigation from tails of channels. The rest of the Muzaffargarh Tahsil has always been the most developed and richest part of the district, and such improvement as there may be in it must be intensive. There are signs that till 1915 improvement was rapid and widespread, but since that year it has not been maintained, mainly on account of changes in the canal supply, aggravated by sickness and high prices, and along the Chenab by erosion and migration to the canal colonies. Even so, the

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palm-groves and orchards are more numerous than at settlement, particularly on the eastern side of the tahsil. The north of Alipur has shared the fortune of Muzaffargarh, but the south is considerably better than at settlement, though there are signs that the improvement will not continue since labourers will be attracted to the new colonies in the Bahawalpur State. Cash rents have increased largely in amount, though not in area, but rents in kind are the same as they were at settlement; indigo, which used to be the most valuable crop in the district, has almost gone, and its substitutes are of less value than it used to be. Any increase in cultivation has been followed by an increase in population, and the incidence on the matured area is one person to one acre (including fodders), and is rather heavier than at settlement; only in certain areas is there evidence of a rise in the standard of living.

Since the whole of the Thal, the Alipur Tahsil and the riverain circles of the other three tahsils were placed under fluctuating assessments, and an extension of canal irrigation in the Kot Adu and Muzaffargarh *Pakka* circles has been assessed to the special canal-advantage-rate, the greater part of any increase of revenue due to an extension in cultivation has already been taken, and the chief grounds for enhancement are the increase in palms and orchards and the rise in prices. Against this must be set the insecurity of the district, which is dependent on two uncontrolled rivers; the history of the last 20 years has shown what little reliance can be placed on them. On the whole, there was no scope for a large increase in revenue.

Circles under Crop Rates—Method of Assessment.

Experience had shown the general lines on which any assessment has to be made, and, when the Settlement Officer joined the settlement, the people, as a whole, were contented with the method by which their particular holdings were assessed, except for the general agitation against well assessments. The obvious way of meeting this agitation, which inspections, as already described, showed to be just, was to extend to Alipur and the riverain circles of Kot Adu and Muzaffargarh the system adopted by Captain Crosthwaite in the Leiah riverain. No attempt was made to classify the wells, or rather an attempt which was made after the operations of the new settlement began was abandoned. A classification is, in fact, impossible if the people are called on to make it; the man of influence will invariably have his well written down several classes; generally speaking, no official of lower rank than a tahsildar has the necessary knowledge to classify a well, and to give one the power to do so is to invite him to be corrupt. No senior official could possibly see the majority of the wells more than once, and the inspection of a single harvest in the Muzaffargarh Distirct leads to no useful result.

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The *khasra girdawaris* show the area of the crops, but not their quality, and anyhow an average of, say, five years cropping seldom gives a true picture of the well. All that can be said safely about a well is that, so long as the flood supply is suitable, the owner will be able to afford good cattle, and will have sufficient manure to grow the best kinds of crops. The most prosperous owners, who are mostly the Hindu bankers, cultivate cane, pepper, fruit and similar garden crops. The less prosperous grow as much wheat as possible; or, if the canal water be very abundant, rice followed by gram, and, if they can, enough of the kharif grains to feed themselves or their labourers; on a well with a really bad flood supply the area of wheat is decreased, and cotton, *bajra* and *jowar* are grown in its place. The changes in cultivation caused by a change in flood supply are well shown in Kot Adu and in the centre of Alipur; in the latter area cane has been replaced by wheat, and rice by wheat and cotton, both poor crops grown in brackish soil; in Kot Adu indifferent wheat has been replaced by excellent rice and gram. The Alipur wells had been assessed on the cane grown at settlement, with a result that 20 years later the bad wheat now grown was paying about three times what it should. In Kot Adu the assessment based on the poor wheat was far less than what the rice and gram should have been paying. The wells thus group themselves by their crops, and, if a reasonable rate be worked out for each class of crop, a well should continue indefinitely to pay a fair assessment whatever accident may befall the flood supply. The crops were divided into four classes: in the first were placed cane and the different garden crops; in the second wheat, indigo, cotton and rice; in the third the inferior food crops such as barley, *bajra*, *jowar* and gram; in the fourth fodders and such indifferent food crops as *sanwank* and *samukka*. The general assessment was Rs. 4 an acre on class 1, Rs. 2 on class 2, Re. 1 on class 3 and annas 8 on class 4, but was varied according to the different circumstances of the circles, and in some circles from estate to estate. In exceptional circumstances sanction was obtained for a reclassification of crops, *e.g.*, in the villages near Multan town, where fodders are mostly grown for sale; these were placed in the third class, which in that circle pays as much as Re. 1-12-0 an acre. In Alipur, round the town of that name, there are some magnificent estates of which the soil has been deposited by the Chenab, and where almost unlimited manure is obtained from the town; three miles away is a strip of arid sand which was once a bed of the Indus; the crop classification based on methods of cultivation is the same in both areas, but it was found impossible to frame rates which could suit both sets of estates, and throughout Alipur the rates imposed vary greatly. Generally, however, throughout one circle, though the yield of one well

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will be much better than that of its neighbour for the same variety of crop, all that can be predicated is that the quality of the outturn is an accident over which the cultivator has no control, and flat rates were imposed on the whole circle. A great advantage of this system is that it should act as a kind of barometer to record changes in canal supply, and any continuing change on any system should very quickly come to the notice of the responsible authorities; a great disadvantage is that attempts will certainly be made to get the patwaris to record superior crops as inferior.

The Thal.

The system by which the Thal was assessed at last settlement is excellently suited to its peculiar conditions, and the only change made was to increase the assessment.

Circles under Fixed Assessment.

The Settlement Officer was anxious to assess the Kot Adu *Pakka* and *Nahri* Thal by crop-rates; his reasons were that the present double cropping is the result of an uncontrolled canal supply; he saw indications that, if the supply continued as he found it, water-logging would spread and cultivation would again change. His proposal did not commend itself to the higher authorities, and still less to the revenue-payers, who rightly feared that the imposition of crop-rates on their double cropping would cause a very large increase in their present assessment. They failed to understand that their assessment was in any case to be increased, and that a fixed assessment, if wrong, is in the long run more onerous than crop-rates. In the Muzaffargarh Tahsil also he would have preferred an assessment by crop-rates mainly because of the great deterioration which he found in many of the estates irrigated from the Chenab system; the owners were, however, unwilling to change the system, their chief reason being that they thought their condition could not get worse, and would improve largely after they were given controlled irrigation. The fixed assessments were therefore maintained in these two tahsils in all the estates where he found them. At the instance of the revenue-payers the fixed assessments imposed on the small area in the Alipur Tahsil were abolished. In both Kot Adu and Muzaffargarh the assessment, though nominally by estates, had to be made by holdings. The owners were called together, and, after the Settlement Officer had announced his assessment on the village as a whole, it was then and there broken up and distributed over the different wells; the method adopted was to take the crops grown on each well during the past five years, and to apply crop-rates to these; sometimes, when the estate was irrigated from two or more channels, it was necessary to frame two or more sets of rates. Wells of which the lands lie high or low were sometimes assessed at higher or lower rates than the other wells in the same estates. So far as possible, he got the landowners to give their own assessment of what the differ-

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ent wells should pay; in places they had prepared elaborate gradation lists of the wells, and he was glad to find that his own method usually agreed with the estimate of the land-owners, except for wells belonging to lambardars, retired patwaris and others of the same kidney, whose wells were always considerably better by his system than by that of the people. The labour of assessing several thousand wells in this way was enormous, but he could devise no other system since the soil classification is of no help in the distribution of the revenue.

In the summer of 1924 the Sanawan protective embankment was breached by an unusually high flood from the Indus, and the greater part of the Kot Adu *Pakka*, the eastern part of the *Nahri* Thal and a long strip running across the Muzaffargarh *Pakka* were flooded. The Settlement Officer had to announce his assessments of these circles in the following winter, by which time it was impossible to estimate the permanent effect, if any, of the flood. After he had gone on leave, the Kot Adu people clamoured for the imposition of crop-rates on the whole of their tahsil outside the Thal, and their request has been granted. In the Settlement Officer's opinion, it was wise, though he wished they could have made up their minds two years earlier. The result is that the only fixed assessment remaining in the district is that of the Muzaffargarh Thal and *Pakka* Circles. The revenue-payers of these two circles are now beginning to agitate for assessment by crop-rates; the truth is that, unsatisfactory as crop-rates in many ways are, particularly in the opportunities which they give for petty corruption and extortion, they are really the form of assessment best suited to a very insecure tract like Muzaffargarh. The fixed assessments of the last two settlements were to the advantage of the revenue-payers so long as the canal supply was being improved, but, with the rivers as they are now, a fixed assessment, however lenient, is felt as a hardship.

Pitch of New Assessment.

In no settlement has the assessment of the district, as a whole, ever approached full half-net assets, though the proportion taken has varied widely in the different circles from 78 per cent. to 98 per cent. The Settlement Officer too was faced with the difficulty that in a number of circles he was unable to recommend the full enhancement which was justified by his calculations since it was due entirely to the estimated rise in prices which, in the peculiar circumstances of some circles, had not benefited them much. While he was submitting his proposals, the rate of assessment in all future settlements was reduced from one-half of the calculated full net assets to ⅓rd; and, although the settlement of Muzaffargarh had begun some months before the resolution of the Council was accepted by the Punjab Government, as a matter

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of grace, Muzaffargarh, as being probably the poorest and most backward district in the province, was given the concession of an assessment based on ⅓rd net assets, though the only tahsil for which he worked out the calculation by this standard was Muzaffargarh. He had calculated the half-net assets of the other three tahsils and the ⅓rd net asset of Muzaffargarh to be a little over 11 lakhs in comparison with an existing assessment of Rs. 7,67,000. The change in the standard of assessment wiped out practically all the increase which he had estimated from the rise in prices, with the result that the new assessment is estimated at a little under Rs. 8,27,000. Since the whole district, with the exception of two circles in the Muzaffargarh Tahsil, is now under some form of fluctuating assessment, the annual fluctuations in revenue must be considerable. The table on page 263 shows the previous demand, that estimated at half-net assets and the demand finally imposed.

Assessment on Mangoes.

The existing assessment on mangoes has been continued and extended to new trees. The rates imposed were in general from annas 4 to Re. 1 a tree, the amount imposed varying with the situation of the orchard, its distance from a market and the quality of the trees. There are a few very famous trees, mostly in the village of Butaphar near Muzaffargarh town, of which the fruit is sold for seed; these trees have been paying assessments of more than Rs. 50 each, which have been maintained. Newly-planted orchards in the circles under crop-rates will pay as first-class crops.

Assessment on Palms.

The assessment on date-palms was continued; the difficulty of doing this work in a satisfactory way has already been mentioned; at last settlement 900,000 female palms were counted and nearly 3,500,000 males and neuters. At this settlement 1,300,000 female trees were counted and 700,000 others. The trees were classified according as to whether they grew among houses, where they are carefully tended; or on uninhabited wells, where they get less attention; or among fields, where they get little care, but benefit from the cultivation of the land; or in the waste, where their fruit is seldom picked. Rates, which varied usually from 3 annas to 6 pies, were placed on the trees of the different classes, though in a few estates, where the dates are of unusual value, heavier assessments were imposed. Generally speaking, the dates grown on the Chenab side of the river are by far the best, both in themselves and on account of the nearness of good markets.

Assessment on Grazing.

The assessment on grazing was maintained.* Outside the Thal the owners had been forbidden to cut trees growing in the waste without permission from the tahsil. The object of this restriction had been to prevent the destruction of timber, required as fuel in the old days when the Indus

* See Grazing Rates, page 267.

flotilla still plied on the river; it had become almost a dead letter, though occasionally used as an engine of oppression by the tahsil subordinate staff. It has now been abolished.

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Dates of Payment of Revenue.

In all the estates assessed by crop-rates the revenue on the matured crops is paid after each harvest. In the estates under fixed assessment instalments have been fixed to meet the wishes of the revenue-payers; in most cases, although the rabi is the more valuable harvest of the two, they preferred to pay two equal instalments. The dates for the kharif are from the 15th of December to the 15th of January, and for the rabi from the 15th of June to the 15th of July. The revenue on the palms is to be paid by the 15th of August, by which date the crop has ripened and been sold. The assessment on mangoes is payable with the kharif.

Duration and Cost of Settlement.

The work of settlement began on the 1st of October 1920 and ended on the 1st of April 1925, by which date the field work had been finished, though the Settlement Officer's work, and in particular his final report, had been thrown out of gear and delayed by the floods of the summer of 1924.

The cost of the settlement was Rs. 7,21,350, an increase of Rs. 1,85,697 over the original estimate. This increase was due to the improvement in the pay of kanungos and patwaris to which effect was given from the 1st January 1921; the salaries of persons which had been calculated at Rs. 25 were raised to Rs. 40, while there was a similar increase in allowances. Furthermore, materials of every kind had to be bought at a time when prices were abnormally high.

Assignments of Land Revenue.

The assignments of land revenue are generally very small sums in favour of religious or charitable institutions, and their revision was not difficult, except in Leiah, where, owing to the transfer of the tahsil from Dera Ismail Khan to Mianwali and thence to Muzaffargarh, the records had been lost and had to be obtained from the Punjab Secretariat. The forfeiture of assignments was recommended in a few cases where the institution for the upkeep of which the grant was made had long been allowed to fall into ruin and the assignees were spending the revenue on themselves. A few Thal wells on the old road to Bhakkar, which in the past had been used as halting-places by travellers, were enjoying assignments for which now, owing to the opening of the railway, the Settlement Officer thought there was no justification, and recommended that these assignments should be transferred to wells in the middle of the Thal at which travellers halt.*

* This was not agreed to by the Financial Commissioner.

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Period of Settlement.

Settlements in the past had been sanctioned for the term of 20 years only, and this short term has been justified by the uncertainty of agriculture. In the Thal the present settlement will automatically come to an end if and when canal irrigation is brought to that tract. For the rest of the district the Settlement Oficer recommended a term of 30 years, but orders have not yet been announced.* A number of suggestions for improving the irrigation of the district has been considered of late years, but it seems impossible to make any radical change, except in the comparatively small area watered from the three Chenab canals. So long as the Indus canals remain as they are, it is unlikely that there can be any great development in the district, while there will probably be a steady and increasing drain of emigrants to the Nili Bar and Bahawalpur colonies. Now that 3½ tahsils are assessed by crop-rates, there seems no reason why the new assessment should not remain for at least a generation, particularly if the Chenab series of canals is given a supply controlled by weir.

Rules for Remissions, etc. Report on Secure Areas, etc. Rules for Protective Well Leases. *Dastur-ul-Amal.*

The rules for remissions and suspensions, a report on secure and insecure areas, rules for protective well leases and a new *dastur-ul-amal* are under preparation by district officers.

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*These are under consideration with the Financial Commissioners.

MILAN RAKBA, OR YEARLY STATEMENT OF AREA OF MUZAFFARGARH DISTRICT (TAHSILWAR) OF NEW SETTLEMENT, MUZAFFARGARH DISTRICT, 1925-26.*

Name of tahsil.	Total area.	Forests.	Uncultivated, other than forests.			Cultivated Area.						
			Not available for cultivation.	*Available for cultivation.*								
				Unappropriated Government waste.	Other.	Chahi.	Chahi-Nahri.	Chahi-Jhalari.	Nahri.	Jhalari.	Chahi-Sailab.	Sailab.
1	2	3	4	5	6	7	8	9	10	11	12	13
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Leiah	1,545,080	..	51,680	217,400	1,101,884	42,359	576	..	394	1	59,056	63,708
Kot Adu	843,783	9,830	57,666	148,216	480,823	13,547	56,232	1,598	39,012	483	15,655	20,497
Muzaffargarh ..	583,037	11,266	180,286	21,002	173,230	3,095	98,025	600	31,675	35	15,385	38,633
Alipur	587,445	27,255	113,872	15,873	229,675	167	70,891	27	48,811	8	13,055	56,394
Total ..	3,559,345	48,351	403,504	402,491	1,985,612	59,168	225,724	2,225	119,892	527	103,151	179,232

*See page 249.

MILAN RAKBA, OR YEARLY STATEMENT OF AREA OF MUZAFFARGARH DISTRICT (TAHSILWAR) OF NEW SETTLEMENT.
MUZAFFARGARH DISTRICT, 1925-26.*

Name of tahsil.	Cultivated area.					Well-irrigated land.					Kachha wells, dhinklis and jhailars in use during the year.	Remarks.
	Barani.	Abi.	Nahri-Abi.	Jhalari-Abi.	Total.	New or old wells made fit for use during the year.	Fallen or become otherwise unfit for use during the year.	Total in use or fit for use. In use.	Not in use.	Total.		
1	14	15	16	17	18	19	20	21	22	23	24	25
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	
Leiah	8,022	..	..	..	174,116	68	17	6,089	717	6,806	658	
Kot Adu	224	..	..	..	147,248	72	18	5,095	870	5,965	671	
Muzaffargarh ..	8	7,092	2,673	32	197,253	52	22	6,567	980	7,547	702	
Alipur	..	7,331	4,086	..	200,770	49	47	4,650	1,503	6,153	666	
Total ..	8,254	14,423	6,759	32	719,387	241	104	22,401	4,070	26,471	2,697	

*See page 249.

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Tahsil.	Circle.	PREVIOUS DEMAND.			CALCULAT-	
		Fixed.	Fluctuating.	Total.	Land revenue.	Grazing.
1	2	3	4	5	6	7
		Rs.	Rs.	Rs.	Rs.	Rs.
LEIAH.	*Kachha* ..	46	7,038	7,084	..	..
	Pakka ..	2,091	77,804	79,895	..	..
	Jandi ..	1,791	12,458	14,249	..	2,263
	Thal *Kalan* ..	4,893	5,769	10,662	..	7,172
	Total ..	8,821	1,03,069	1,11,890	..	9,435
KOT ADU.	Thal *Chahi* ..	2,382	3,200	5,582	..	2,972
	Thal *Nahri* ..	10,261	..	10,261	..	960
	Pakka ..	99,651	..	99,651	..	2,346
	Sindh ..	..	32,603	32,603	..	..
	Total ..	1,12,294	35,803	1,48,097	..	6,278
MUZAFFARGARH.	Thal ..	31,549	277	31,826	37,564	349
	Sindh ..	878	15,949	16,827	800	..
	Pakka ..	1,79,667	5,906	1,85,573	1,72,152	4,392
	Chenab ..	13,382	53,939	67,321	13,594	..
	Total ..	2,25,476	76,071	3,01,547	2,24,110	4,741
ALIPUR.	Sindh ..	3,371	29,225	32,596	..	Not available.
	Chenab ..	6,958	52,696	59,654	..	Not available.
	Pakka ..	7,540	1,05,623	1,13,163	..	Not available.
	Total ..	17,869	1,87,544	2,05,413	..	2,000
	GRAND TOTAL	3,64,460	4,02,487	7,66,947	2,24,110	22,454

*See page 258.

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ED DEMAND.

Fixed.			Fluctuating.				½ or ¼ net assets.
Gardens.	Dates.	Total.	Land revenue.	Grazing.	Total.	Total.	
8	9	10	11	12	13	14	15
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
..	206	206	Not available.	810	Not available.	Not available.	20,279
..	4,965	4,965	Not available.	2,711	Not available.	Not available.	1,54,374
..	200	2,463	Not available.	..	Not available.	Not available.	30,972
..	..	7,172	Not available.	..	Not available.	Not available.	13,520
..	5,371	14,806	1,43,837	3,521	1,47,358	1,62,164	2,19,145
..	87	3,059	3,922	..	3,922	6,981	5,793
..	258	1,218	13,261	..	13,261	14,479	16,562
56	14,680	17,082	1,20,485	..	1,20,485	1,37,567	1,67,055
..	3,687	3,687	36,620	2,215	38,835	42,522	50,706
56	18,712	25,046	1,74,288	2,215	1,76,503	2,01,549	2,40,116
..	3,470	41,383	..	..	..	41,383	37,517
..	2,190	2,990	18,132	1,777	19,909	22,899	18,890
..	24,587	2,01,131	..	..	..	2,01,131	1,73,050
..	5,085	18,679	87,838	1,493	89,331	1,08,010	1,08,291
..	35,332	2,64,183	1,05,970	3,270	1,09,240	3,73,423	3,37,748
..	Not available.	Not available.	Not available.	..	Not available.	Not available.	Not available.
..	Not available.	Not avail able.	Not available.	..	Not available.	Not availfible.	Not available.
..	Not available.	Not available.	Not available.	..	Not available.	Not available.	Not available.
..	12,000	14,000	2,05,738	..	2,05,738	2,19,738	3,08,010
56	71,415	3,18,035	6,29,833	9,006	6,38,839	9,56,874	11,05,019

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STATEMENT SHOWING

	Circle.	DEMAND				
		Fixed.				
		Land revenue.	Grazing.	Gardens.	Dates.	Total.
1	2	16	17	18	19	20
		Rs.	Rs.	Rs.	Rs.	Rs.
LEIAH.	*Kachha* ..	..	..	..	207	207
	Pakka ..	..	..	257	4,885	5,142
	Jandi ..	..	2,166	..	198	2,364
	Thal *Kalan* ..	..	7,264	..	..	7,264
	Total ..	..	9,430	257	5,290	14,977
KOT ADU.	Thal *Chahi* ..	..	3,288	..	25	3,313
	Thal *Nahri* ..	..	841	..	301	1,142
	Pakka ..	..	2,277	56	14,622	16,955
	Sindh ..	..	..	..	3,551	3,551
	Total ..	..	6,406	56	18,499	24,961
MUZAFFARGARH.	Thal ..	36,895	353	37	3,202	40,487
	Sindh ..	944	..	..	2,190	3,134
	Pakka ..	1,58,596	3,590	7,629	24,696	1,94,511
	Chenab ..	9,971	182	852	5,085	16,090
	Total ..	2,06,406	4,125	8,518	35,173	2,54,222
ALIPUR.	Sindh ..	..	740	..	611	1,351
	Chenab ..	..	554	..	4,705	5,259
	Pakka ..	..	706	324	8,833	9,863
	Total ..	..	2,000	324	14,149	16,473
	GRAND TOTAL	2,06,406	21,961	155	73,111	3,10,633

MPOSED.							
Fluctuating.							
Land revenue.	Grazing.	Total.	Total.	Proportion of ½ or ⅓rd net assets taken.	Percentage enhancement of columns 24 and 5.	Incidence of column 24 per matured acre.	REMARKS.
21	22	23	24	25	26	27	28
Rs.	Rs.	Rs.	Rs.			Rs. A. P.	
8,232	868	9,100	9,307	46	31	1 3 7	
88,948	2,608	91,556	96,698	63	21	1 3 3	
16,671	..	16,671	19,035	62	34	0 13 3	
7,753	..	7,753	15,017	111	40	0 14 7	
1,21,604	3,476	1,25,080	1,40,057	64	25	1 1 7	
3,903	..	3,903	7,216	125	29	1 2 5	
8,438	..	8,438	9,580	58	—6	1 1 8	
85,760	..	85,760	1,02,715	61	3	1 11 0	
31,281	2,269	33,550	37,101	73	14	1 5 11	
1,29,382	2,269	1,31,651	1,56,612	65	6	1 8 5	
342 10	..	342 10	40,829 *10	109	28	2 6 2	
16,176 1	1,616	17,792 1	20,926 *1	111	24	1 9 3	
6,472 265	136	6,608 265	2,01,119 *265	116	9	2 11 7	
78,050 12	1,212	79,262 12	95,352 *12	88	42	2 1 7	
1,01,040 288	2,964	1,04,004 288	3,58,226 *288	106	19	2 6 3	
22,789	..	22,789	24,140	Not available.	—26	1 0 9	
48,510	..	48,510	53,769	Not available.	—10	1 2 6	
83,998	..	83,998	93,861	Not available.	—17	1 4 1	
1,55,297	..	1,55,297	1,71,770	56	—16	1 3 0	
5,07,328 288	8,709	5,16,032 288	8,26,665 *288	75	8	1 9 3	

* Water-advantage revenue.

CHAPTER III, C.

LAND REVENUE.

Rates of Grazing Fees.

Tahsil.	Rate per head of Cow-buffalo not exempt.	Rate per head of Cow not exempt.	Rate per head of Sheep and goat not exempt.
	Rs. A. P.	Rs. A. P.	Rs. A. P.
Leiah	0 8 0	0 4 0	0 0 6
Kot Adu	0 10 0	0 5 0	0 1 0
Muzaffargarh	0 8 0	0 4 0	0 1 0
Alipur	0 8 0	0 4 0	0 1 0

Paragraph 64 (*a*) of the Leiah Assessment Report may also be seen for remission in bad years.

GLOSSARY OF THE VERNACULAR TERMS USED.

Vernacular.	*English Equivalent.*
Abi	Land irrigated by lift from a creek or pond.
Bajra	The bulrush millet.
Barani	(Of crops) grown with rain only.
Chahi	(Of land) irrigated from a well.
Chahi-Jhalari	The same as *chahi-nahri*, except that the water from the canal has to be raised by lift.
Chahi-Nahri	Well land which also gets irrigation from a canal.
Chahi-Sailab	Well land which is flooded from a river in summer.
Dofasli	(Of land) producing two crops in the year.
Inam	A stipend paid by Government in return for services, *e.g.*, those of a zaildar.
Inamdar	The recipient of an *inam.*
Jamabandi	A record-of-rights.
Janch Partal	The process of testing the correctness of the maps of an estate.
Jhalar	A Persian-wheel set up on a canal creek.
Jhalari	(Of land) watered by a *jhalar.*
Jhand	A tree : Prosopis spicigera.
Jowar	*Sorghum* grown as a fodder.
Kachha	(Of an assessment circle) insecure.
Kanungo	A subordinate revenue official.
Kardar	A subordinate revenue official under the Sikh administration.
Kharif	Summer harvest.
Khasra Girdawari	A record of cultivation, crops, rents and occupation prepared at each harvest.
Khatauni	A list of fields owned and cultivated by the same right-holders.
Lambardar	A headman of a village.
Malikana	A due paid to a superior proprietor.
Nahri	(Of land) irrigated from a canal.
Pakka	(Of an assessment circle) secure, *i.e.*, irrigated from a canal.
Part Sarkar	The copy of the revenue records kept at headquarters.
Patwari	A village accountant.
Rabi	The winter harvest.
Riwaj-i-am	A code of customary law.
Safedposh	A local notable.
Sailab	(Of land) irrigated by spill from a river.
Samukka	An inferior rice.
Sanwank	Ditto.
Shisham	A valuable timber tree : Dalbergia sissoo.
Til	A summer crop.
Zail	The group of estates in the circle of a zaildar.
Zaildar	The superior headman in a group of estates.

CHAPTER III, D.

MISCELLANEOUS REVENUE.

Excise—Consumption.

SECTION D.—MISCELLANEOUS REVENUE.

The total consumption of excisable articles is as follows:—

Spirits, in gallons.

Years.	Foreign.	Country.
1927-28 (Only Refreshment-room at Mahmud Kot).	40	1,652
1928-29 (Refreshment-room and one L.-10 license).	194	2,012

Opium, in seers.

1927-28	352
1928-29	354

Drugs (Bhang), in seers.

1927-28	9,044
1928-29	10,400

Income, etc.

The gross receipts and expenditure during the years 1927-28 and 1928-29 were—

Years.	Receipts.	Expenditure.
	Rs.	Rs.
1927-28	48,368	12,756
1928-29	46,957	11,848

The incidence of gross receipts from excisable articles on each 1,000 of population in rupees has during the same two years been—

Years.	Liquor.	Opium.	Drugs.
1927-28	13·58	16·65	10·38
1928-29	10·82	16·86	9·02

The incidence of net excise revenue from all sources per 1,000 of total population in rupees is given below:—

1927-28	62·69
1928-29	61·81

CHAPTER III, D.

MISCELLANEOUS REVENUE.

Distilleries and Source of Purchase of Liquor shops.

There are no distilleries in this district. Liquor is generally obtained from the Amritsar and Rawalpindi distilleries and from wholesale licensees at Lyallpur and Lahore. There were two distilleries in this district, *e.g.*, one at Muzaffargarh and the other at Alipur, but they were closed on the 3rd February 1894 and the 1st April 1891, respectively.

The number of shops is as follows:—

Muzaffargarh Tahsil.

	Shops.		
	Country liquor.	Opium.	Bhang.
Muzaffargarh	1	1	1
Khangarh	1	1	1
Kinjhar	..	1	..
Rangpur	1	1	1
	3	4	3
Alipur Tahsil.			
Alipur	1	1	1
Khairpur	..	1	..
Sitpur	..	1	1
Jatoi	..	1	1
Shahr Sultan	..	1	1
	1	5	4
Kot Adu Tahsil.			
Kot Adu	1	1	1
Khoawar	1	1	1
	2	2	2
Leiah Tahsil.			
Leiah	1	1	1
Karor	1	1	1
Kot Sultan	1	1	1
	3	3	3
GRAND TOTAL ..	9	14	12

CHAPTER III, D.

MISCELLANEOUS REVENUE.

Imported Liquor.

There is only one shop for the sale of imported and Indian-made liquor (spirits, wines, gin and beer) at Muzaffargarh. In addition to this, one license on fixed fees is given for the sale of such liquor at the Mahmud Kot Railway Refreshment-room.

Opium.

Poppy cultivation has not been allowed since 1897. Excise opium only is sold in the district. It is obtained from Ghazipur and kept in the Government treasury for sale to license-holders.

Bhang, etc.

The cultivation of the hemp plant is prohibited in the district, except at religious institutions, under special licenses. Bhang is generally imported from the Gurdaspur and Hoshiarpur Districts. Charas shops have been closed in the district since 1921.

Staff.

There is an Excise Sub-Inspector in charge of the district, and works under the Revenue Extra Assistant Commissioner, who acts as Excise Officer.

Table 41 of volume B gives further statistics relating to excise.

Stamps.

The income from sale of court-fee and non-judicial stamps, the expenditure on the agency employed for the sale of stamps and the net income are given below:—

Years.	Receipts.	Expenditure.	Net Receipts.
	Rs.	Rs.	Rs.
1927-28	2,27,110	4,429	2,22,681
1928-29	2,45,014	4,081	2,40,933

The expenditure includes also refunds, carriage charges, etc.

Vendors.

There are 41 licensed vendors in the district, of whom 4 are *ex-officio* (treasurers), 26 private persons, 1 petition-writer and 10 branch postmasters and schoolmasters. The 4 *ex-officio* licensees sell non-judicial and court-fee stamps, the 26 private licensees sell non-judicial stamps and 4 of them also sell court-fee stamps, and the other 11 hold special licenses—1 for court-fee, and 10 for the sale of non-judicial, stamps. The Excise Sub-Inspector inspects the registers of the vendors, except those of branch postmasters, who are under the Postal Deportment for inspection purposes.

Income-tax.

Income-tax is now collected by special Income-tax Officers under the Government of India; details of assessees, collections, etc., are not available locally, and have been omitted. The Assistant Income-tax Officer, Multan, is the assessing officer for the district.

SECTION E.—LOCAL AND MUNICIPAL GOVERNMENT.

CHAPTER III, E.

LOCAL AND MUNICIPAL GOVERNMENT.

Municipal Committees.

There are at present five municipalities in the district, *viz.*—

(1) Muzaffargarh;

(2) Khangarh;

(3) Alipur;

(4) Leiah; and

(5) Karor.

Constitution.

The following statement shows the present constitution of each committee:—

Name of Municipality.	Nominated.		Elected.	Total.
	Ex-officio.	Others.		
Muzaffargarh ..	..	2	7	9
Khangarh ..	..	2	7	9
Alipur	..	2	7	9
Leiah	..	2	8	10
Karor	1	..	7	8

Term of Office.

The term of office of members is 3 years.

Elections.

The last general election in Alipur, Karor and Leiah was held in 1927, and that in Muzaffargarh and Khangarh in 1928.

Presidents

The Sub-Divisional Officer, Leiah, is president of the Municipal Committee, Karor. A non-official president will probably be allowed in the near future. Elsewhere there is a non-official president.

Condition of Municipalities.

The poverty of the municipalities does not permit of any considerable improvement in the drainage of the towns, etc. Drainage schemes for Leiah and Muzaffargarh prepared many years ago are pending for want of funds. The Muzaffargarh Municipality is in debt. The Alipur Municipality is in a bad financial condition. They are all doing useful work, generally, however.

Source of Income.

Octroi is the main source of income of all the municipalities. Proposals to introduce a terminal tax are pending.

CHAPTER III, E.

LOCAL AND MUNICIPAL GOVERNMENT.

Income and Expenditure.

The following statement shows the income and expenditure of each municipality during the year 1928-29:—

Name of Municipality.	INCOME.											
	Octroi.	Realization under Special Acts.	Revenue derived from Municipal Property, and Powers, apart from Taxation.	*Grants and Contributions.*			Miscellaneous.	Total Income.	Extraordinary and Debts.	GRAND TOTAL.	Opening Balance on 1st April 1928.	Total of Income and Opening Balance.
				From Government.	From Local Funds.	Others.						
1	2	3	4	5	6	7	8	9	10	11	12	13
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Muzaffargarh	20,662	1,133	2,920	1,188	..	..	858	26,761	1,999	28,760	373	29,133
Alipur	11,031		1,367	708	1,600	517	674	15,897	136	16,033	3,134	19,167
Khangarh ..	11,075	..	1,490	..	1,500	..	347	14,412	304	14,716	3,936	18,652
Leiah	18,582	388	2,126	2,019	2,000	..	2	25,117	35	25,152	16,657	41,809
Karor ..	7,873	259	1,143	1,578	2,000	60	27	12,940	620	13,560	750	14,310

Name of Municipality.	EXPENDITURE.									
	General Administration and Collection Charges.	Public Safety.	Public Health and Convenience.	Public Instruction.	Miscellaneous.	Total Expenditure.	Extraordinary and Debts.	Total Disbursements during 1928-29.	Closing Balance on 31st March 1929.	Total of Expenditure and Closing Balance.
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Muzaffargarh ..	6,321	1,555	5,011	7,008	2,464	22,359	140	22,499	6,634	29,133
Alipur	2,953	2,377	7,526	2,329	1,279	16,464	136	16,600	2,567	19,167
Khangarh	3,538	1,354	6,868	1,415	950	14,125	880	15,005	3,647	18,652
Leiah	7,141	1,297	10,750	5,202	1,799	26,189	35	26,224	15,585	41,809
Karor	2,195	1,119	5,829	2,724	826	12,693	198	12,891	1,419	14,310

CHAPTER III, E.

LOCAL AND MUNICIPAL GOVERNMENT.

Incidence of Taxation and Total Income.

The incidence of taxation and total income on the town population in 1928-29 was as below:—

Name of Municipality.	Population.	Incidence per head of	
		Taxation.	Total Income.
		Rs. A. P.	Rs. A. P.
Muzaffargarh	4,587	4 8 1	5 13 4
Khangarh	3,184	3 7 8	4 8 5
Alipur	3,434	3 3 5	4 10 1
Leiah	8,476	2 3 1	2 15 5
Karor	3,539	2 3 7	3 10 6

Hospitals, Schools, etc.

The Karor, Alipur and Khangarh Municipalities maintain hospitals, assisted by grants from the district board. The Muzaffargarh and Leiah hospitals have recently been provincialized, but the local bodies concerned contribute an annual fixed sum to Government. Schools are also maintained and aided. Attention is given to sanitation, lighting, watch-and-ward, etc.

Library.

A small town library was opened by the Muzaffargarh Municipal Committee, with a Government grant, in 1920-21. Government also makes an annual grant for its upkeep.

Statistics.

Table 46 of volume B contains further information about municipal funds.

Small Towns.

There are at present four small towns—Kot Adu, Daira Din Panah, Khairpur Sadat and Jatoi. The first mentioned was a notified area from 1915, but was converted into a small town in 1924. The remaining three small towns were also constituted in the year 1924.

Constitution.

The constitution of the small town committees is as follows:—

Name of Small Town.	Number of Members.		
	Nominated.	Elected.	Total.
Kot Adu	1	6	8
Daira Din Panah.. ..	..	4	5
Khairpur Sadat	..	4	5
Jatoi	1	5	6

President.

The Small Town Committee, Jatoi, has the Tahsildar of Alipur as president; the others have non-official presidents. The nominated member at Kot Adu is the sub-assistant surgeon.

CHAPTER III. E.

LOCAL AND MUNICIPAL GOVERNMENT.

Elections.

The last general election of Daira Din Panah, Khairpur Sadat and Jatoi Small Town Committees was held in 1927, and that of Kot Adu in 1928.

Income and Expenditure.

The following statement shows the income and expenditure of each small town during the year 1928-29 :—

Name of Small Town.	Population.	Opening Balance.	Income.	Expenditure.	Closing Balance.
		Rs.	Rs.	Rs.	Rs.
Kot Adu ..	4,100	2,751	8,113	5,689	5,175
Daira Din Panah..	1,857	1,217	1,629	1,206	1,640
Khairpur Sadat ..	2,477	432	1,111	1,540	3
Jatoi ..	3,383	496	..	..	496

Source of Income.

The principal income in the case of Kot Adu is terminal tax, and in Daira Din Panah and Khairpur Sadat it is personal town-rate. Jatoi has not yet imposed any tax.

Condition of Small Towns.

The Kot Adu and Daira Din Panah small towns are doing useful work. The Jatoi small town has not begun to function yet. The condition of Khairpur Sadat is very poor.

Panchayats and their Constitution.

There are eight panchayats in the district, and their constitution is as follows :—

Name of Tahsil in which Panchayat is situated.	Name of Panchayat.	Constituted in	Number of Panches.
Muzaffargarh ..	Umarpur	1923	5
	Mahal Khakhi	1924	5
Alipur ..	Dammarwala Shumali ..	1924	5
	Kabir Gopang	1924	7
	Bilewala	1924	4
Leiah ..	Nurewala	1923	5
	Warasiran	1924	5
	Khokharwala	1924	6

Functions.

Other Panchayats proposed.

Their function is to attend to village needs in the matter of sanitation, etc. They also exercise criminal and civil jurisdiction in petty cases. They are doing useful work. There are proposals to constitute panchayats in other villages also.

Panchayat Officer.

A Panchayat Officer was appointed in 1928 for these panchayats, and works under the Deputy Commissioner.

District Board Constitution.

The District Board of Muzaffargarh was constituted under Act XX of 1883 in 1887 It was comprised of 30 members, 10 of whom were official and 20 non-official. In 1909 the number was increased to 40 owing to the addition of the Leiah Tahsil to the district, and of this number 12

CHAPTER III, E.

LOCAL AND MUNICIPAL GOVERNMENT.

were officials and 28 non-officials. In 1923 elections were introduced and the constitution became as follows:—

Ex-officio	... ...	6
Nominated	... ...	6
Elected	... ...	24

The *ex-officio* members are the Deputy Commissioner, the Civil Surgeon, the Executive Engineer, Muzaffargarh Canals, the District Inspector of Schools and the Sub-Divisional Officers of Leiah and Alipur. The Deputy Commissioner is *ex-officio* chairman, and the vice-chairman is elected annually.

Local Boards abolished.

There were local boards in the four tahsils, but these were abolished in 1913. A muharrir is still attached to each tahsil office to facilitate work.

Electoral Circles.

The district is divided into the following electoral circles, and one member is elected for each circle. The first general election was held in 1924:—

Name of Tahsil.	Name of Electoral Circle.	Name of Zail.
Muzaffargarh ..	1. Rangpur ..	Rangpur and Amirpur Kanaka.
	2. Muradabad ..	Muradabad and Thatta Siyalan.
	3. Muzaffargarh ..	Muzaffargarh and Thatta Qureshi.
	4. Khangarh ..	Khangarh, Ghazanfargarh and Mondka.
	5. Basira ..	Basira, Alidaha and Sharif Chhajra.
	6. Kinjhar ..	Kinjhar and Diwala.
	7. Shujra ..	Shujra and Mahra.
	8. Rohillanwali ..	Rohillanwali and Mochhiwali.
Kot Adu ..	9. Kot Adu ..	Tibba, Pattal and Pirhar.
	10. Khar Gharbi ..	Sheikh Umar and Khar Gharbi.
	11. Thatta Gurmani	Thatta Gurmani and Sanawan.
	12. Mahmud Kot ..	Khoawar and Gujrat.
Alipur ..	13. Shahr Sultan ..	Dammarwala Shumali, Shahr Sultan and Jhalarin.
	14. Jatoi ..	Bilewala, Bet Warian and Jatoi.
	15. Alipur ..	Alipur, Madwala, Dammarwala, Janubi and Bande Shah.
	16. Sitpur ..	Khairpur, Ghiri and Sitpur.
	17. Khanwah ..	Bambri, Khanpur Naraka and Dhaka.
Leiah ..	18. Kot Sultan ..	Bet Dabli and Kot Sultan.
	19. Sarishta ..	Sarishta.
	20. Lohanch ..	Lohanch.
	21. Nawankot ..	Nawankot.
	22. Naushahra ..	Naushahra.
	23. Karor ..	Karor.
	24. Marhanwali ..	Marhanwali and Wara Sihran.

CHAPTER III. E.

LOCAL AND MUNICIPAL GOVERNMENT.

District Board. Qualifications of Voters.

The qualifications of voters are as follows*:—

Every person shall be entitled to have his name registered on the roll of a constituency who has not been adjudged by a competent court to be of unsound mind, and has the following qualifications, namely:—

(a) that he is a male; and

(b) that he is a British subject or a natural-born subject of a State in India; and

(c) that he is not less than 21 years of age; and

(d) that he is a zaildar, inamdar, safedposh or lambardar in the constituency; or

(e) that he is the owner of land situated within the area subject to the authority of the board, and assessed to land revenue of not less than five rupees per annum; or

(f) that he is an assignee of land revenue amounting to not less than ten rupees per annum in respect of land situated within the area subject to the authority of the board; or

(g) that he is a tenant or lessee under the terms of a lease, for a period of not less than three years, of Crown land situated within the area subject to the authority of the board for which rent of not less than five rupees per annum is payable, provided that, when the amount payable is assessed from harvest to harvest, the annual rent payable by such person shall be deemed to be the annual average amount payable by him in the three years previous to the date aforesaid; or

(h) that he is a tenant with a right of occupancy as defined in chapter II of the Punjab Tenancy Act, 1887, in respect of land situated within the area subject to the authority of the board assessed to land revenue of not less than five rupees per annum; or

(i) that he resides in the area subject to the authority of the board and was during the financial year previous to the date of publication of the roll assessed to income-tax; or

(j) that he is a retired, pensioned or discharged commissioned or non-commissioned officer or soldier of His Majesty's regular forces resident in the area subject to the authority of the board; or

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**Vide* rule 7 of the District Board Election Rules, 1927, published with Punjab Government notifications No. 25277, dated the 11th October 1927, and No. 16953, dated the 22nd May 1928.

CHAPTER III. E.

LOCAL AND MUNICIPAL GOVERNMENT.

(k) that he has paid in the year ending the 31st day of March last preceding the date on which the rolls of constituencies are published under the provision of sub-rule (1) of rule 12 not less than the sum of two rupees on account of any cess, rate or tax payable to the board.

The qualifications for membership are as follows*:—

Qualifications for Membership.

(1) Except with the sanction of the local Government, which may be granted in respect of any person or class of persons, no person other than a British subject or a natural-born subject of a State in India shall be eligible for election as a member of a board.

(2) No person shall be eligible for election as a member of a board—

(a) who is not registered as a voter on a roll published under the provisions of sub-rule (1) of rule 17 and relating to a constituency of the district concerned and in force under the provisions of sub-rule (2) of rule 17; or

(b) who is under contract as regards work to be done for, or goods to be supplied to, the board; or

(c) who receives any remuneration out of the district fund for services rendered to the board: or

(d) who has been proscribed from Government employment; or

(e) if he has at any time within the five years preceding the date or the first date of the dates fixed for the election under the provisions of rule 3 or rule 27 or rule 48, as the case may be, been serving a sentence of imprisonment passed by any court for a period exceeding one year or a portion of such sentence; or

(f) who has been adjudged an insolvent; or

(g) who has been removed from membership of a board under section 14 or section 14-A of the Act or whose election for such membership has been declared void for corrupt practices under the provisions of these rules; or

(h) who is a whole-time salaried Government official:

Provided that the local Government may, in cases not covered **by section** 13 of the Indian Elections Offences and Inquiries **Act**, 1920, exempt any person or class of persons from any of the disqualifications contained in clause (b), (c), (d), (e), (f) or (g) of this sub-rule.

*** *Vide* rule 6 of the District Board Election Rules, 1927, published with Punjab Government notification No. 25277, dated the 11th October 1927.**

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LOCAL AND MUNICIPAL GOVERNMENT.

The income of the district board for 1928-29 amounted to Rs. 5,35,105, the principal sources being local rate (12½ per cent. of the land revenue) and Government grants. The expenditure for the corresponding period amounted to Rs. 5,19,784. Details are shown in the following tables:—

Income and Expenditure.

			Rs.	Rs.
OPENING BALANCE				32,428
Income.				
General Departments (Including Consolidated Grant of Rs. 65,200)			74,921	
Local Rate			1,00,343	
Haisiyat Tax			997	
Fees other than Education			5,455	
Income under Stage Carriage Act			440	
,, ,, Cattle Trespass Act			7,166	
,, ,, Ferries Act			17,638	
,, ,, Board's Property			16,381	
		Rs.		
Education	Fees	8,440	2,01,641	
	Grants	1,91,943		
	Miscellaneous	1,258		
Medical	Government Grant	21,835	22,572	
	Miscellaneous	737		
Public Health			21	
Veterinary			131	
District Works	Government Grant	36,124	36,620	
	Miscellaneous	496		
Withdrawal of Advances			50,779	
	Total		5,35,105	
Expenditure.				
General Department			69,899	
Education			2,79,829	
Medical			72,584	
Public Health			8,614	
Veterinary and Stock-breeding			15,350	
District Works			72,808	
Suspense Account			700	
	Total Expenditure		5,19,784	
CLOSING BALANCE				47,749

The haisiyat tax was abolished in 1927. Proposals for a professional tax have been submitted to Government.

Roads.

For details of roads maintained by the district board see section G in chapter II.

Buildings and Rest-houses.

Most of the district board buildings in the district, including schools, were constructed out of liberal grants given by Government. Most of the civil rest-houses are under the control of the district board and are repaired by it. The district board gets a grant for the purpose, now included in the consolidated grant.

CHAPTER III, E.

LOCAL AND MUNICIPAL GOVERNMENT.

Principal Officers.

The district board has a Secretary, with office, a District Engineer, two Sub-Overseers, an Arboriculture Superintendent, a Ferry Darogha, etc. The District Medical Officer of Health and the District Inspector of Schools work under the board also but are paid by Government. The municipalities and small towns may make use of the District Board Engineer on certain conditions.

Duties.

The activities of the district board extend to Education, Medical, Public Health, Agriculture, Veterinary and Communications (including Ferries), to which sections attention is invited.

S. Kaure Khan Bequest.

The late Khan Bahadur S. Kaure Khan of Jatoi left the district board some property which brings in an income of about Rs. 8,000 per annum. It is devoted to scholarships and stipends.

CHAPTER III, F.
PUBLIC WORKS.

SECTION F.—PUBLIC WORKS.

Railway.

The Sindh-Sagar Railway line, which crosses the district, was constructed in 1886.* The Engineering Department of the railway has a Sub-Inspector of Works stationed at Muzaffargarh who works under the Inspector of Works, Multan.

There are two Permanent-way Inspectors stationed at Leiah and Mahmud Kot. The former has a Sub-works Inspector under him stationed at Doratta Railway Station, while the latter has two stationed at Muzaffargarh and Kot Adu.

Railway Bridge.

There is a railway bridge over the Chenab at Chenab West Bank which is open to the public between sunrise and sunset. No toll is charged.

Roads.

The road from Multan to Dera Ghazi Khan passes through Muzaffargarh, Qureshi and Ghazi Ghat, and is in charge of the Executive Engineer, Provincial Division, Multan.* The road from Muzaffargarh to Alipur *via* Khangarh, Rohillanwali and Shahr Sultan is also under the charge of the same officer, who is under the Superintending Engineer, 4th Circle, Multan.

Ferry.

The ferry over the Indus at Ghazi Ghat—including the bridge of boats in the winter and steamer in the summer—is maintained by the Public Works Department. There is a motor launch which may be used by officers with permission.

Government Buildings.

The principal Government buildings at Muzaffargarh are the district courts, including the treasury, sessions house and police office; the sub-jail, the police station, the tahsil and Sub-Judges' courts; the residences of the Deputy Commissioner, the Superintendent of Police and the Civil Surgeon; the Police Lines, the Civil Hospital, the Government High School, the Canal Executive Engineer's residence and office; and the dak bungalow (under the district board). There are also tahsil buildings at the headquarters of the other tāhsils; the Sub-Judges' courts at Leiah and Alipur; the Sub-Divisional Officers' residences and courts at Leiah and Alipur; the Public Works Department rest-houses at Ghazi Ghat and Wasandewali; the Government High Schools at Leiah, Kot Adu and Alipur; the hospitals at Leiah and Alipur and all thanas.

There is a Public Works Department subordinate at Muzaffargarh. The Sub-Divisional Officer is also at Multan.

Irrigation.

The district constitutes a division of the Irrigation Branch of the Public Works Department. An Executive Engineer is stationed at Muzaffargarh and looks after the inundation canals of the district, with the assistance of four Sub-Divisional Officers stationed at Kot Adu, Chaudhri, Jatoi and Muzaffargarh, and a Deputy Collector. There is

* See also Chapter II-G.

CHAPTER III, F.

PUBLIC WORKS.

also a student engineer. They are under the Superintending Engineer, Derajat Circle, Multan. A canal rest-house is to be built at Muzaffargarh. There are others in the district noticed in chapter II-G.

Sutlej Valley Project.

The headworks of this canal are being constructed at Panjnad in this district, where there is a staff of canal engineers, etc. Details are not given as the project does not serve the district.

CHAPTER III, G.

ARMY.

SECTION G.—ARMY.

Cantonment and Camping-grounds.

There is no cantonment in the district. The nearest is Multan—20 miles away. The district lies in the Multan Brigade Area. The camping grounds have been shown in chapter II-G. The troops at Multan usually do part of their training at Muzaffargarh during December and January.

Soldiers' Board.

There is a Soldiers' Board of which the Deputy Commissioner is president. There are very few ex-soldiers in the district, and very few persons join the army from the district.

CHAPTER III, H.

POLICE AND JAIL.

SECTION H.—POLICE AND JAIL.

In Western Range.

The Muzaffargarh District is for police purposes situated in the Western Range which has its headquarters at Rawalpindi.

Strength of Force.

Subject to the general supervision of the District Magistrate, the police force is under the control of a Superintendent of Police, and consists of—

1 Deputy Superintendent ;

2 Inspectors (including 1 Prosecuting Inspector) ;

27 Sub-Inspectors ;

7 Assistant Sub-Inspectors ;

86 Head Constables ;

5 Mounted Constables ; and

452 Constables.

Recruitment.

Recruits are enlisted under departmental rules between the ages of 20 and 25 years if they have a chest measurement of 33 inches and are not less than 5 feet 7 inches in height, except in the case of men who have served in the regular army and who have left it otherwise than in consequence of misconduct, or in case of certain castes such as Dogras. No great difficulty is experienced in getting men, but the physical standard of men of this district is poor, hence men of other districts, chiefly Mianwali and Jhelum, are taken, as the following figures will show:—

Muzaffargarh District.

1927	15
1928	23

Other Districts.

1927	15
1928	37

Great difficulty is experienced in obtaining Hindu recruits.

Training.

The recruit is trained in headquarters for about 6 to 9 months, during which he attends school as well. After passing his course he is put on general duties, and it is usually between 2 to 2½ years before he is posted to a rural police station.

Messes.

There are separate messes for Hindus and Muhammadans, membership of which is compulsory for recruits and members of the first reserve. These are much appreciated by the men.

Hospital.

There is a hospital with 12 beds in the police lines. A Sub-Assistant Surgeon is in charge. The hospital is under the control of the Civil Surgeon.

CHAPTER III, H.

POLICE AND JAIL.

Divisions.

The work of the police stations is supervised by the District Inspector, the Deputy Superintendent of Police, under the orders of the Superintendent of Police, and by the Superintendent of Police himself.

There are 18 police stations as follows:—

Muzaffargarh Tahsil.

(1) Muzaffargarh ;
(2) Khangarh ;
(3) Rohillanwali ;
(4) Kinjhar ;
(5) Qureshi ; and
(6) Rangpur.

Alipur Tahsil.

(7) Alipur ;
(8) Sitpur ;
(9) Khanwah ;
(10) Jatoi ; and
(11) Shahr Sultan.

Kot Adu Tahsil.

(12) Mahmud Kot ;
(13) Kot Adu ; and
(14) Daira Din Panah.

Leiah Tahsil.

(15) Chaubara ;
(16) Karor ;
(17) Leiah ; and
(18) Kot Sultan.

In addition to the 18 police stations, there are the following outposts:—

(1) Langar Sarai	..	4 Constables (Muzaffargarh Police Station).
(2) Munda	..	1 Head Constable and 4 Constables (Daira Din Panah Police Station).
(3) Sanawan	..	1 Head Constable and 4 Constables (Kot Adu Police Station).
(4) Khudai	..	4 Constables (Rangpur Police Station).
(5) Panjnad Headworks (Temporary).		2 Head Constables and 12 Constables (Alipur Police Station).

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POLICE AND JAIL.

There are city police as follows:—

(1) Muzaffargarh	..	One Head Constable and 10 Constables.
(2) Khangarh	..	1 Head Constable and 9 Constables.
(3) Leiah	..	1 Head Coastable and 10 Constables.

Rural Police.

The rural police is subject to the rules laid down under the Punjab Laws Act, IV of 1872. The appointment, dismissal, etc., of its members (chaukidars) is vested in the District Magistrate. The chaukidars number 667, and it is their duty to co-operate with the regular police in the prevention and detection of crime, the reporting of vital statistics and the presence of undesirable persons and strangers, etc.

Town watchmen are maintained by the Alipur, Karor and Khangarh Municipalities and the small towns of Daira Din Panah, Kot Adu and Khairpur Sadat.

Thikri Pahra is enforced when necessary (Punjab Village and Small Towns Patrol Act, VIII of 1918). It has been adopted voluntarily by about 21 villages.

Railway Police.

The railway police is under the control of the Assistant Inspector-General, Government Railway Police, Lahore. Its duty is to prevent and detect crime within the railway boundary, and for this purpose there is a railway police outpost at Mahmud Kot consisting of 1 Head Constable and 4 Constables, and another at Leiah consisting of 1 Head Constable and 2 Constables. The former is under the Railway Police Station, Multan, and the latter under the Railway Police Station, Mianwali.

Reserves.

The district has three reserves which are designated the first reserve, the second reserve and the third reserve. These reserves are governed by the rules laid down in the Police Department. The first reserve is always held available for duty at a moment's notice.

Special Punitive and Military Police.

There is no punitive police post in the district, nor is there any military police.

Detection of Crime.

The District Inspector and the Station House Officers are the agency for the detection of crime in their respective charges. Each Sub-Inspector is assisted by one Clerk Head Constable and one Assistant Sub-Inspector or Head Constable for investigation; it depends on the size of the Police station as to there being an Assistant Sub-Inspector or a Head Constable.

The District Inspector works under the orders of the Superintendent of Police, and supervises, or actually investigates, serious cases. The Sub-Inspector is assisted by the zaildar, lambardar and village chaukidar or rural police officer; and, owing to the lack of telegraphic communication,

CHAPTER III, H.

POLICE AND JAIL.

etc. these agencies are the chief means of transmitting information regarding the perpetration of crime and the whereabouts of criminals.

Finger-print System

The finger-print system is in use in the district, and works in co-operation with the Finger-print Bureau at Phillaur.

Modus Operandi System.

Recently a special staff of one Sub-Inspector, 1 Head Constable and 3 Foot Constables has been formed to systematize all cases of burglary. The *modus operandi* in each case is carefully noted, and cases in which the method of forcing an entrance appears similar are carefully checked. Thus all available information is posted for the assistance of the investigating staff.

Nakabandi.

During the summer, when the rivers are in spate, much of the district is under water for about 4 months, making the passage across them of cattle impracticable, except at certain fixed places technically called *jhokas*, or drifts, where the current forcibly strikes against the land. During this period police parties, assisted by private persons, patrol the river-banks, paying special attention to the *jhokas* and secluded portions of jungle used as centres for the collection, sale, exchange, etc., of stolen cattle. This arrangement costs Government Rs. 1,200 annually in the form of cash rewards, wages of labourers, cost of maintenance of boats, etc. The results since the introduction of the system have shown a steady improvement.

In 1928 the river patrols were responsible for the arrest of 44 men and the seizure of 105 cattle valued at Rs. 9,574. Figures for 1929 are expected to be even better.

Crime.

The predominant feature of the crime of the district is cattle-lifting, the extensive river-front on three sides of the district affording an excellent means of concealing and disposing of stolen cattle. Cattle-lifting is looked upon by young bloods among the ordinary agriculturists more as a pastime than as an offence. Indeed, several men of position and influence do not mind patronizing the game for the sake of fun as well as of profit. Cattle are often taken across the Indus to Rajanpur or across the Chenab to Bahawalpur territory. The thieving fraternity has lately established communication with the Chenab Colony, and cattle, once driven up there, are often as difficult to trace as they used to be when that tract was an extensive jungle called the Bar. Offences accompanied by violence are not common. Murders are almost always the outcome of jealousy over or intrigue with a woman. Cases of enticing away a woman are very common, and instances of abduction, kidnapping and rape are not rare. Burglary, which is confined generally to towns or large villages, is the only other class of crime prevalent

CHAPTER III, H.

POLICE AND JAIL.

in the district. The number of offences showing cattle-thefts, burglaries and murders is as follows:—

Years.	Offences.
Total Cases.	
1927	1,169
1928	1,145
Cattle-thefts.	
1927	100
1928	86
Burglaries.	
1927	344
1928	339
Murders.	
1927	5
1928	13

Criminal Tribes.

The following are registered members of criminal tribes in this district:—

Gidri	5 residents of Police Station Jatoi.
	1 resident of Jatoi.
Baureah	18 residents of Police Station Sitpur.
	1 resident of Police Station Khangarh.
Mirani	6 residents of Police Station Kinjhar.

Jails.

There is a sub-jail at Muzaffargarh opened in 1908 with accommodation for 70 male and 7 female prisoners. It is in charge of a Jailor; and a Magistrate, usually the Treasury Officer, acts as Superintendent, under the control of the District Magistrate. The buildings are under the Executive Engineer, 1st Multan Provincial Division, Multan.

Visitors.

There are 4 non-official visitors, in addition to the District Magistrate, the Superintendent of Police and the Civil Surgeon. A Magistrate visits the sub-jail regularly on behalf of the District Magistrate also.

Long-term Prisoners.

Long-term prisoners are sent elsewhere to serve their sentences.

Medical Charge.

The Sub-Assistant Surgeon in charge of the police hospital is in medical charge of the sub-jail under the Civil Surgeon.

Judicial Lock-ups.

There are judicial lock-ups at Muzaffargarh, Leiah and Alipur.

Reformatories.

There is no reformatory in this district. Cases are sent to the Reformatory School at Delhi.

SECTION I.—EDUCATION AND LITERACY.

CHAPTER III, 1.

EDUCATION AND LITERACY.

Number of Literate Persons in 1921.

Boys and Girls educated since.

According to the census figures of 1921, of the total male population of 308,605 in the district only 15,956, or 5·10 per cent. were literate, while the number of females claiming literacy in the district was 939, or ·34 per cent. of the female population of 259,873. Since 1921, 10,762 boys, 695 girls and 1,618 adults gained literacy from the recognized institutions of the district. The increase in the number of boys has been very marked indeed, and is out of all proportion to the number of girls. The education of adults is a new departure, and the experiment has been successful. There is great difficulty in this district in spreading education. First, there is a scattered population as the bulk of the rural population lives in scattered hamlets and on wells. The rural population is mainly Muhammadan, who have hereditary prejudices against innovations; and, finally, the zamindar is so poor and indebted that he has either been unable to pay the cost of education, or seen any material advantage in it, especially when he needs his sons to help him in the field. As regards girls, of course there is positive objection to their education, except among parents who are enlightened. Nevertheless, there has been steady progress, particularly in recent years, but the district is still one of the most backward in the province. This backwardness is mainly among Muhammadans as the percentage of educated Muhammadans is only 1·12 against 15·47 of educated Hindus and 6·55 of educated Sikhs. No special measures are necessary in the case of Hindus and Sikhs as they are ready to take advantage of every opportunity; indeed, there are two private Hindu high schools in the district. The main problem is the Muhammadan children. The Anjuman Islamia, Muzaffargarh, awards stipends to deserving and needy boys, and has opened a hostel from which boys attend the Government High School at Muzaffargarh. This is financed largely from the marriage registration fees charged in the district for the registration of Muslim marriages which the district board makes over to the institution. It does useful work. There are other special facilities afforded by Government. In the case of secondary education, where again Muhammadan boys furnish a very small number, Government grants a remission of half the tuition fees. The district board grants scholarships for agriculturists. Again, the income from the bequest made to the district board by the late Khan Bahadur Sardar Kaure Khan of Jatoi, amounting to about Rs. 8,000 per annum, is spent on stipends to Muhammadans, mainly Baluchi boys. These are for secondary, and in some cases for higher, education. Further, the recruitment of a larger number of Muhammadan agriculturists in the training institutions under the orders of Government has proved of great value in increasing the number

Education of Adults.

Difficulties.

Muhammadans mainly backward.

Measures taken.

CHAPTER III, I.

of boys of that class in the secondary schools.* Some of the other measures adopted for increasing literacy are—

EDUCATION AND LITERACY.

Compulsion.

Since the passing of Punjab Act VII of 1919, compulsory education has been extended to 5 urban and 88 rural areas. The attendance is everywhere 50 per cent., and has even reached 90 per cent. of the boys of school-going age in some places.

Adult Education.

†Adult schools have been established. On the 31st March 1929 there were 71 such institutions, with an enrolment of 1,458, and in the year 1928-29, 307 adults passed the literacy test. To prevent adults from falling back into illiteracy, village libraries have been opened in connection with 16 upper middle and 32 lower middle schools. The libraries contain a number of books, pamphlets and journals dealing with matters of interest to the rural population generally. At first the teachers worked honorarily; but, in order to place these schools on a satisfactory footing, a regular scale of allowances is given by local bodies out of funds provided by Government.

Propaganda.

In 1926 a rural community council was formed in the district with the Deputy Commissioner as president. It is in connection with adult education, and aims at the general uplift of the rural masses. Lantern-lectures, etc., are delivered by the representatives of all the beneficent departments of the district. The Red Cross Society has generously supplied four lanterns for the same purpose. It is somewhat difficult to get at the people, living as they do in scattered hamlets, etc., but all that is possible is being done. Propaganda in this district has to be most careful, and for this reason it has recently been slackened as it was construed as being directed against the Hindus who, though in a minority, have a predominant position in the economic life of the district.

Co-education.

To increase the attendance of girls in schools co-education is being tried. The number of girls admitted into boys' schools is 470, which is satisfactory, seeing that the Muhammadan masses do not take kindly to the idea of educating their girls.

System of Education.

The system of education has witnessed much improvement during the last two decades. The inauguration of the four-class primary school about 10 years ago may be regarded as the first step towards the better order of things. Various methods are adopted for encouraging the child to learn through his play. Learning by rote has become a thing of the past.

*Letter C. M. No. 11204 G., dated the 21st August 1921.

†Letter No. 10717 G., dated the 21st September 1925.

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EDUCATION AND LITERACY.

Instruction is no longer limited to the prescribed scheme of studies, but its scope is widened by various activities such as the boy scout movement, play-for-all, gardening and community work, which may be referred to briefly:—

Boy Scout Movement.

This has done much to introduce in schoolboy life the elements of joy, health and social service. In the district there are 778 scouts and cubs, and there is hardly a secondary school without a patrol or a troop of boy scouts. The movement promises to go on expanding.

Play-for-all.

Physical training has received increased attention during the last two decades. The play-for-all movement has now almost completely replaced the old system under which only a selected few were encouraged at the expense of the others. It is usual now to see the whole school turn out for play under the supervision of teachers. Tournaments and games are played at local fairs, such as the Karor Lal Isan Fair, Muzaffargarh Fair, etc., as a part of the propaganda work for adults, who also join in the games.

For the training of pupil teachers who are to look after the physical training in village schools graduate physical instructors have been appointed at the training institutions at Kot Adu and Muzaffargarh.

In high schools a beginning has been made in keeping health cards for each boy, showing the health record during his school-life. In all other secondary schools inoculation and vaccination are carried out as needed.

Gardening.

A start in gardening was made in 1926. It has received increased attention during the last three years. Wherever water is within easy reach, the school premises contain flower beds, grass plots and hedges, and trees have also been planted for shade.

Agricultural Education.

The teaching of agriculture was begun in 1919*, first at Kot Sultan. It has been assisted by provincial funds. The subject is in the hands of senior vernacular teachers trained at the Agricultural College at Lyallpur. The number of farms and garden plots attached to the vernacular middle schools is at present 4. These farms not only provide means for practical training in agriculture for boys, but also serve the purpose of demonstration centres for zamindars. Kot Sultan in the Leiah Tahsil and Shahr Sultan in the Alipur Tahsil are the best-managed farms in the district, and are doing useful work.

Schools and Scholars.

Since 1908 the number of institutions has risen by 330 to 415. There has been an increase of 6 high schools, 17 boys' and 2 girls' vernacular middle schools, 77 lower middle

*Punjab Government No. 77, dated the 19th February 1919.

CHAPTER III, I.

EDUCATION AND LITERACY.

schools, 81 primary schools for boys, 18 girls' schools, 51 aided elementary schools, 77 adult schools and 2 normal schools. In addition to these, there are 106 branch schools attached to primary, upper middle and lower middle schools. Since the reduction of the primary school to a four-years' course, the importance of the lower middle school, which comprises six classes, has immensely increased, and new lower middle schools are taking the place of the old primary schools. The branch schools comprise two classes, and are held under the general supervision of the teacher in charge of the school to which each is attached. Branch schools are popular as they are convenient for little children who live too far away to attend the main school.

Of the total number of high schools preparing boys for the university examination four are maintained by Government; that is, one at each tahsil headquarters, one is maintained by the district board at Khangarh, which is a municipal area (Government is being pressed to provincialize it), and the remaining two are denominational schools maintained by Hindus, *viz.*, one at Karor and the other at Leiah, and both of which show excellent results.

The number of vernacular secondary schools at present is 21 upper middle and 77 lower middle. Optional English is provided in 3 vernacular upper middle schools. Facilities for Anglo-vernacular and vernacular secondary education are evenly distributed throughout the district.

The number of primary schools for boys has risen to 133. Of these 6 are maintained by municipalities and 127 by the district board.

CHAPTER III, I.

EDUCATION AND LITERACY.

The total number of schools in 1928-29 is shown in the statement below:—

For Boys.

Name of Institution.	Government.	District Board.	Municipal Committee.	Aided.	Unaided.	Total.
High Schools ..	4	1	..	2	..	7
Middle, English ..	..	..	..	..	1	1
Middle School (Upper Middle).	..	18	..	..	..	18
Middle Schools (Lower Middle).	..	77	..	..	..	77
Primary	..	127	6	39	10	182
Normal and Training ..	2	..	..	..	..	2
School for Adults ..	..	77	..	..	..	77
Total Recognized Institutions.	6	300	6	41	11	364
Total Unrecognized Institutions.	..	..	..	..	74	74
GRAND TOTAL ..	6	300	6	41	85	438

For Girls.

Name of Institution.	Government.	District Board.	Municipal Committee.	Aided.	Unaided.	Total.
High	..	..	..	..	..	--
Middle	..	..	2	..	..	2
Primary	..	30	2	13	4	49
Total Recognized ..	..	30	4	13	4	51
Total Unrecognized..	..	..	..	..	82	82
GRAND TOTAL ..	..	30	4	13	86	133

CHAPTER III. I.

EDUCATION AND LITERACY.

The number of scholars receiving instruction in all kinds of recognized schools in the district on the 31st March 1929 compared with that in September 1906 is as under:—

	High Schools.		Other Schools.		Total.	
	1929.	1906.	1929.	1906.	1929.	1906.
Brahmins	49	20	191	71	240	91
Non-Muslims ..	1,129	170	5,503	1,178	6,632	1,348
Sikhs	19	14	92	19	111	33
Muslims	683	117	17,109	1,437	17,792	1,554
Others	3	3	233	11	236	14
Total ..	1,883	324	23,128	2,716	25,011	3,040
Agricultural ..	721	89	14,303	1,033	15,024	1,112
Kamins	393	..	600	301	993	311
Non-agriculturists ..	769	235	8,225	1,382	8,994	1,617
Total ..	1,883	324	23,128	2,716	25,011	3,040

Supply of Teachers.

There is an increasing demand for qualified teachers which cannot be met. The vernacular middle schools in the district supply recruits to the two training institutions attached to the Government High Schools at Muzaffargarh and Kot Adu. The new type of vernacular training institution is a great advance on that of the past. The percentage of agriculturists enrolled in the institutions is 67. In 1929 85 middle-passed youths were sent for training in the junior vernacular class against 7 in the year 1908, and 31 teachers were sent for training in the senior class at Multan. At present the district has 757 teachers, of whom 541, *i.e.*, 71 per cent., are trained.

In order to initiate village teachers into the new movements of the day and improved and new methods of instruction, a refresher course is held occasionally. A comprehensive course of work and play is gone through, various items of educational importance are discussed and lectures are given

on the educational side of Co-operation, Personal and School Hygiene, Agriculture, Gardening, Veterinary Relief and Village Sanitation.

CHAPTER III, I.

EDUCATION AND LITERACY.

The following is the scale of salaries paid by the District Board in boys schools:—

	Rs.
J. V. Failed	17
J. V. Passed	20—1—25
J. V. Passed	26—2—40
S. V. Lower Middle and Upper Middle Schools ..	30—2—40 40—2—50
Vernacular Middle Schools	50—3—70 75—3—90
J. A. V.	55—3—70
S. A. V.	80—4—100
B. A., B. T.	50—10—200
Munshi Fazil or O. T. Passed	55—3—70
Sanskirit Passed	55—3—70
Special Certificated and Local Trained ..	17—1—25

Girls' Education.

In the education of girls the district is even more backward. It is, however, an encouraging sign that during the last 20 years there has been an increase of 16 in the number of district board girls' schools and 16 in the number of aided and unaided girls' schools. Besides these, two vernacular middle schools are maintained by the Municipal Committee of Muzaffargarh and two primary schools by the Karor and Leiah Municipalities. There is a total increase of 36 in the number of institutions for girls since 1908. Of the 51 recognized institutions for girls 24 are Nagri schools for Hindu girls and 27 are Urdu schools for Muhammadan girls. The number of girls enrolled in these institutions on the 31st March 1929 was 2,552.

Scarcity of Teachers.

The scarcity of women teachers willing to leave their homes is one of the chief obstacles. To meet the demand for trained teachers the training has since 1924 been brought closer to the homes of the students by the opening of a training class at Multan in connection with the Government High School for Women. Six women from the district in 1929 joined the training class. To encourage women to undergo training the district board awards four stipends of the value of Rs. 5 every year. Women teachers are paid Rs. 20 per mensem if they are junior vernacular failed, and Rs. 25—2—35 if they have passed the junior vernacular course.

Muhammadan Girls backward mainly.

It will be realized that the majority of girls receiving education are Hindus. The Muhammadan zamindars are averse to the education of their girls, and any progress here must be very slow. Efforts are, however, being made to level up the great gap between the literacy of boys and girls in the district.

CHAPTER III, I. EDUCATION AND LITERACY.

Inspection.

The high schools are inspected twice a year by the Inspector of Schools or the Deputy Inspector of Schools, Multan Division. All the vernacular schools are inspected by the District Inspector or his assistants for the purpose of the annual inspection every winter. The District Inspector himself visits the schools where senior vernacular trained teachers are employed. There is one District Inspector of Schools and four Assistant District Inspectors of Schools. To facilitate the work of inspection the district has been divided into three educational sub-divisions, with headquarters at Muzaffargarh, Alipur and Leiah. One Assistant District Inspector is in charge of each sub-division, and the fourth Assistant District Inspector acts as a Personal Assistant to the District Inspector of Schools. There is probably need for another Assistant District Inspector, which would mean one for each tahsil.

Besides departmental inspectors, the Deputy Commissioners and other officers on his staff pay occasional visits to schools in the course of their tours.

The secondary girls' schools are inspected by the Inspectress of Schools, Western Circle, Lyallpur, with headquarters at Lyallpur. The primary girls' schools are inspected twice a year by the Assistant Inspectress of Schools, with headquarters at Multan. There is probably need for a whole-time Assistant Inspectress for this backward district, and the district board has brought the need to notice.

Control.

The high schools and the Anglo-vernacular and oriental teachers of the secondary schools are under the control of the inspector (who obtains the concurrence of the chairman, district board, in certain matters), while the vernacular secondary or primary schools are managed by the district board or the municipal committees. The District Inspector of Schools is a member of the district board, and usually exercises powers delegated to him by the board or the chairman.

Fees.

Education up to the primary stage is given free. In the secondary classes in vernacular board schools the fees are levied at the following rates under the Punjab Education Code, article V, chapter IV, page 26:—

5th Class	5 annas.
6th ,, ...	6 ,,
7th ,, ...	7 ,,
8th ,, ...	8 ,,

The scale of fees for pupils in Government and board Anglo-vernacular schools is as follows—under article VI, chapter IV, page 26 of the Punjab Education Code:— CHAPTER III. I. EDUCATION AND LITERACY.

—	5th Class.	6th Class.	7th Class.	8th Class.	9th Class.	10th Class.
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Grade I	3 0 0	4 0 0	5 0 0	6 0 0	7 0 0	8 0 0
Grade II	1 8 0	2 0 0	2 8 0	3 0 0	3 8 0	4 0 0

Fees at these rates are levied from pupils studying English as an optional subject in the board vernacular schools.

The children of agriculturists and village artisans and kamins in vernacular and Anglo-vernacular schools enjoy a remission of half the fees

Scholarships.

The following scholarships are awarded:—

Kind of scholarship.	Number of scholarships.	Amount.	Source from which paid.
		Rs.	
Open	24	4	District Board Funds.
Close	40	4	Do.
Victoria	44	4	Do.
Kaure Khan	20	4	District Board from Kaura Khan's Estate.
Khan Bahadur Makhdum Ghulam Qasim-Hailey.	1	10	Khan Bahadur Makhdum Ghulam Qasim-Hailey Scholarship.
Military ..	6	4 at Rs. 8 2 at Rs. 2	Provincial Funds.

In addition to these, stipends of the value of about Rs. 8,000 are awarded every year out of the income of the late Khan Bahadur Sardar Kaure Khan's estate left to the district board to deserving and needy Muhammadans in secondary schools and also in special cases in arts and professional colleges.

Colleges.

There is no college in the district. Men go on to the colleges at Multan or Bahawalpur as a rule, and in some cases to colleges at Lahore.

CHAPTER III, I. EDUCATION AND LITERACY.

Buildings.

The increase in the number of schools and pupils, coupled with the improved status of a large number of schools, impose a heavy strain on the available accommodation, with the result that many schools are still housed in unsuitable rented buildings. With annual liberal grants from provincial funds the district board has been able to provide many new schools in recent years. All the Government high schools, except that at Leiah, which is not so suitable, are housed in fine buildings of their own. The District Board High School at Khangarh is also not very suitable, and it is hoped that it will be provincialized soon.

Boarding-houses.

There are boarding-houses at the high schools and the upper middle schools, but, speaking generally, the parents are too poor to send their sons as boarders where this can be avoided.

Indigenous Systems.

There are the usual indigenous systems of education in the district, mullans, pandits, etc., but they hardly count in these days.

Statistics.

Tables 50, 51 and 52 of volume B give further figures. As regards expenditure on education (table 52), it may be noted that Government gives the district board a grant equal to 80 per cent. of its expenditure on education, and full grants for buildings. This is because of the poverty of the district.

Industrial Education.

There is no Government industrial school in the district. Importance is given, however, to handwork in certain high schools, especially the Government High School at Kot Adu, and the Hindu High School at Leiah. There is a private industrial school at Kot Adu.

SECTION J.—MEDICAL AND PUBLIC HEALTH.

CHAPTER III. J.

MEDICAL AND PUBLIC HEALTH.

Staff.

The medical work of the district is in charge of the Civil Surgeon, assisted by assistant surgeons and sub-assistant surgeons. Some of the latter are paid by the local bodies under whom they are employed There are also medical officers in charge of rural dispensaries.

Hospitals, Dispensaries, etc.

The following statement shows the hospitals and dispensaries in the district:—

Name of Hospital or Dispensary.	By whom maintained.	Bed accommodation. Male.	Bed accommodation. Female.	Medical Officer in charge.
1. King Edward Memorial Civil Hospital, Muzaffargarh.	Government ..	38	12	Assistant Surgeon.
2. Police Hospital, Muzaffargarh	Do. ..	12	..	Sub-Assistant Surgeon.
3. Civil Hospital, Leiah ..	Do. ..	12	5	Assistant Surgeon.
4. Civil Dispensary, Karor ..	Municipal Committee, Karor.	3	5	Sub-Assistant Surgeon.
5. Civil Dispensary, Khangarh..	Municipal Committee, Khangarh.	4	2	Do.
6. Civil Dispensary, Alipur ..	Municipal Committee, Alipur.	6	2	Do.
7. Civil Dispensary, Shahr Sultan.	District Board ..	4	..	Do.
8. Civil Dispensary, Jatoi ..	Do. ..	4	2	Do.
9. Civil Dispensary, Sitpur ..	Do. ..	4	2	Do.
10. Civil Dispensary, Rangpur ..	Do. ..	6	4	Do.
11. Civil Dispensary, Sanawan ..	Do. ..	8	2	Do
12. Civil Dispensary, Kot Adu ..	Do. ..	10	2	Do
13. Canal Dispensary, Muzaffargarh.	Canal Department	..	..	Do
14. Canal Dispensary, Jatoi ..	Do. ..	..	..	Do.
15. Railway Dispensary, Mahmud Kot.	North-Western Railway.	..	..	Sub-Assistant Surgeon (Under supervision of the Railway Medical Officer, Multan.)
16. Rural Dispensary, Chaubara..	District Board ..	2	2	Medical Officer, Licensed Medical Practitioner.
17. Rural Dispensary, Kot Sultan	Do. ..	2	2	Do.
18. Rural Dispensary, Daira Din Panah.	Do. ..	2	2	Do.
19. Rural Dispensary, Gujrat ..	Do. ..	2	2	Do.
20. Rural Dispensary, Basira ..	Do. ..	2	2	Do.

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Hospitals, Dispensaries, etc.

Name of Hospital or Dispensary.	By whom maintained.	Bed Accommodation.		Medical Officer in Charge.
		Male.	Female.	
21. Rural Dispensary, Langar Sarai.	District Board ..	2	2	Medical Officer, Licensed Medical Practitioner
22. Rural Dispensary, Kinjhar ..	Do. ..	2	2	Do.
23. Rural Dispensary, Khairpur	Do. ..	2	2	Do.
24. Rural Dispensary, Rohillanwali.	Do. ..	2	2	Do.
25. Rural Dispensary, Khanwah	Do. ..	..	..	Sanctioned, but not yet started (1929).
26. Itinerating Dispensary No. I	Government ..	..	..	Sub-Assistant Surgeon.
27. Itinerating Dispensary No. II	Do. ..	..	..	Do.

The King Edward Memorial Civil Hospital, Muzaffargarh, was built in 1912—14 out of public subscriptions, the sale-proceeds of the old site and probably grants from Government to the district board. It is a good type of hospital. There is a good out-patient block which is arranged to deal with male out-patients on one side and female out-patients on the other. There is a female sub-assistant surgeon in charge of the female department, assisted by a female dispenser and a *dai*. A separate female hospital under the charge of a lady assistant surgeon is badly required, however. There is a small clinical laboratory equipped with a good Leitz microscope which does useful examination work. The hospital was provincialized in 1928.

The hospital at Leiah was provincialized in 1929. There is a qualified *dai* at present, but a female side will shortly be opened.

Medical relief for women in the district is totally inadequate. What there is has been mentioned above. The Lady Dufferin Fund has been paying a contribution of Rs. 25 per mensem for some years for the female sub-assistant surgeon at Muzaffargarh. As the hospital has been provincialized, it has agreed to make a grant of Rs. 50 per mensem to another institution. Efforts are being made to open a female side, with the help of this grant, at Kot Adu. The nearest women's hospital is at Multan—belonging to the Church Missionary Society. Women go there, and the lady doctors sometimes visit the district. The Red Cross Association has taken up the question of providing lady health visitors and training *dais*.

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The hospital at Alipur is in a very bad condition owing to the poverty of the municipal committee. Efforts are being made to have it provincialized as soon as possible. The Kot Adu hospital will also be provincialized in due course under the scheme, which aims at a properly-equipped Government hospital at each district, and a smaller institution of the same kind at each tahsil headquarters. Under this scheme the local body which maintained the hospital before provincialization has to contribute to Government a sum equal to the average cost of maintenance for the three years previous to provincialization, and transfer to Government all buildings, etc., on condition that they are used for the hospital only.

The Jatoi dispensary appears to be a memorial to the late Khan Bahadur Sardar Kaure Khan of Jatoi, who left the district board a share of his estate. This brings in an annual income of about Rs. 8,000, which is, however, all expended on scholarships and stipends. The district board maintains the dispensary, but should do better if it is a memorial. The Shahr Sultan and Kot Adu dispensaries have been more or less recently built, and are fairly adequate. The others are inadequate as regards buildings and equipment. A grant has been sanctioned for buildings at Karor. The local bodies are badly off.

In recent years rural dispensaries have been opened. Government makes a non-recurring grant of Rs. 7,000 to the district board for initial expenses (buildings and equipment), and an annual grant of Rs. 2,500 for each rural dispensary. These are according to standard plan and well equipped. Each is in charge of a registered practitioner under the Punjab Medical Registration Act, 1916. He is permitted to do private medico-legal work, with the sanction of the district board, and to charge fees in his private capacity. Government cases may be sent to him in emergencies, but the fees in such cases are credited to the district board, which the district board has fixed at Rs. 2 per person examined. The medical officers are, for purposes of discipline, transfer, etc., under the Civil Surgeon (they are paid by Government), and transfers also require the sanction of the Inspector-General of Civil Hospitals.

Mortuaries. There are mortuaries at Muzaffargarh, Alipur and Leiah, and post-mortem work is done by the Civil Surgeon or assistant surgeons.

Sub-jail. The Civil Surgeon is a "visitor" of the sub-jail at Muzaffargarh. The sub-assistant surgeon in charge of the police hospital is also in medical charge of the sub-jail.

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Patients and Cost, etc.

The following table gives the statistics of patients treated, operations performed, etc., during the three years 1926, 1927 and 1928:—

Year.	Number of public Institutions.	Out-patients treated.	Operations.	Selected Operations.	Expenditure.	Income from Subscribers.	In-patients.
					Rs.	Rs.	
1926 ..	16	249,493	8,736	656	52,221	681	2,312
1927 ..	16	297,073	10,106	786	59,061	543	2,650
1928 ..	19	321,377	10,904	825	*87,275	431	2,824

*Excludes Rs. 2,150 from provincial revenues.

Table 53 of volume B shows the daily average attendance at each institution.

The relief afforded by the hospitals and dispensaries has been increasingly appreciated, and the work done has more than doubled during recent years. This increase is in the face of a remarkable increase in unqualified medical practitioners with a smattering of Western medical methods, such as retired dispensers and vaccinators, etc. The proportion of unqualified to qualified practitioners is very high in the district, and the unqualified man flourishes not by the success of his work, but owing to the extreme poverty and ignorance of the population.

Diseases.

Amongst the diseases treated in the dispensaries, etc., diseases of the eye claim the largest number. Malaria comes next. Malaria is the most important single factor in the health of the district, and is responsible, directly or indirectly, for a fairly large proportion of the mortality, and also for an appreciable lowering of the working capacity of the labourer. Venereal diseases come next in importance, and it is estimated that 80 per cent. of the population have suffered from venereal affection of some sort before the age of 40. It is regrettable that most of these venereal cases are treated by hakims, vaids and quacks and very few attend the dispensaries, etc.

Tuberculosis is also on the increase in the district, an increase of 25 per cent. being shown in the past five years.

Indigenous Methods.

The towns and larger villages have their hakims, etc. and druggist's shop. The district board does not grant any aid, however.

Insanity.

Insane cases are sometimes sent to the Punjab Mental Hospital at Lahore.

District Medical Officer of Health.

In accordance with Government policy,* the administration of public health measures in the district (excepting the headquarters town) was transferred from the Civil Surgeon to a

*Letter No. 100 [Home—(Medl.—Sany.)], dated 3rd January 1920.

District Medical Officer of Health (with Diploma of Public Health), who took over charge of his duties in this district in January 1924. The District Medical Officer of Health and his staff, consisting of three qualified sanitary inspectors and one dispenser, receive pay from the provincial revenues. They work under the district board, which employs other staff, and meets contingent expenditure.

Vaccination.

The vaccination staff under the District Medical Officer of Health consists of eight vaccinators and one Superintendent of Vaccination. The expenditure on this staff is met by the district board.

Vaccination is compulsory in all municipal towns and in Kot Adu, which is a small town. The Vaccination (Amendment) Act, 1929, has empowered district boards to make vaccination compulsory in the areas under their control. Steps are being taken by the District Board of Muzaffargarh to do this.

The vaccination staff performs vaccination operations during the season (November to March). The average number of persons vaccinated during the past five years is 45,354, or 7·97 per cent. of the total population. The cost of the operations comes to Rs. 4,784-3-0 a year. During the off-vaccination season the vaccination staff is required to check the birth and death registers of the chaukidars, and also to prepare lists of persons to be revaccinated during the next vaccination season. The population of two or three thanas is completely revaccinated each year so that the entire population of the district is revaccinated after every eight years.

In all municipal towns vaccinations are performed by a member of the municipal staff, who is either the secretary or a suitable muharrir who knows how to do the work.

The attitude of the people towards vaccination is, on the whole, very favourable. Among some of the orthodox Hindus smallpox is still considered as being due to the visitation of a goddess (" Mai Rani " or " Mata Rani "), and the child who gets smallpox is considered lucky. Men, women and children flock round the suffering child to have a *darshan* of the goddess, and thus the disease spreads.

Table 54 in volume B shows further statistics of vaccination.

The sanitary and vaccination staffs are also utilized in combating epidemics when there are outbreaks.

Epidemics.

There is no special epidemic staff in the district. Fortunately, epidemics are not at all common; and, excepting the great epidemic of influenza in 1918 and relapsing fever in 1923, 1924 and 1925, no epidemics of any magnitude have been recorded. Malaria prevention measures are taken, and quinine distributed through the staff.

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Sanitation.

Much has been done by the District Medical Officer of Health and his staff to improve the sanitation of the district, and their efforts have been assisted by the district board, the municipalities, small towns and panchayats. Sanitary regulations have been framed by the district board, and are being enforced gradually in villages. The municipalities and small towns all require proper drainage, but they are handicapped by want of funds. Apart from Muzaffargarh, none of them has a qualified sanitary inspector. Proper bye-laws are required in them all. Leaflets are distributed and lectures given. Efforts are being made to employ a lady health visitor, and to train *dais* for maternity cases.

Muzaffargarh Town.

The Civil Surgeon is in charge of the sanitation of the Muzaffargarh municipal area. A qualified sanitary inspector has recently been appointed by the municipal committee, and since his appointment there has been some improvement. Much more remains to be done, however. A drainage scheme has been held up for some years for want of funds. The bye-laws require revision, and new bye-laws are required for other matters concerning health.

Civil Station.

The civil station is outside municipal limits, and efforts are being made to have it included. At present there are no arrangements for sanitation, etc. The district board does some road work, however.

Health Statistics, etc.

See chapter I-C.

Note.—For Agriculture, Co-operative Credit Societies, Veterinary, Posts and Telegraphs Department, Income-tax, Forests, etc., see chapter II.

CHAPTER IV.—Places of Interest.

CHAPTER IV.

PLACES OF INTEREST.

Muzaffargarh.

Muzaffargarh has been the headquarters of the district since 1859. The municipality was first constituted in 1874. It is now a municipality of the second class, and the committee consists of seven elected and two nominated members. The official element has been withdrawn, and the committee has a non-official president since 1921.

The town is situated on the road from Multan to Dera Ghazi Khan which passes it in a north-westerly direction. while the main road leading to Alipur lies to its west. The old town consisted of a fort formed by a circular-shaped wall 30 feet high and 13 feet wide. It has fallen at many places, and is being sold to the owners of the adjoining houses. The plan of the town within the fort is symmetrical, consisting of a chauk in the centre, with the four bazars meeting therein. The town has now largely extended beyond the old wall. The houses on the north are almost all built with burnt bricks. Midway between the town and the railway station there is a regular bazar consisting of shops and houses on both sides of the road, with a public sarai. The traders are mostly outsiders from the Multan and Shahpur Districts.

The district courts are situated on the Multan-Dera Ghazi Khan road. Muzaffargarh is also the headquarters of a Superintendent of Post Offices, an Assistant Registrar of Co-operative Societies, an Extra Assistant Director of Agriculture and the Executive Engineer, Muzaffargarh Canals.

Drinking water is obtained mostly from hand-pumps fixed almost in every house and on roads and streets.

There are the Central Co-operative Bank and a branch of the Lyallpur Bank, Ltd.

The office of the Superintendent of Post Offices, the district board veterinary hospital and the office of the District Board lie on the road leading from the railway station to the district courts. The Deputy Commissioner's and the Civil Surgeon's residences, the Church (St. Mary's), the Police Lines, the Civil (King Edward Memorial) Hospital, Government High and Normal Schools, the office of the Executive Engineer, Muzaffargarh Canals and his residence and the canal rest-house are situated on the road leading from the district courts to Alipur, while the Superintendent of Police's residence, the treasury, the thana, the dak bungalow and the tahsil are on the main road leading to Dera Ghazi Khan. A short branch road leads from the Dera Ghazi Khan road along the western edge of the district courts to the sub-jail. The Victoria Memorial Hall was built in 1909 by public

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subscription, and was constructed under the personal supervision of Lala Kedar Nath, the then District Judge. The building has attached to it spacious grounds with a garden, which is used for tennis, etc., by the Muzaffargarh Club, which was started in the same year. The Municipal Library, which was started in 1920-21, has also been located in the building. It was used by the district board until the board built its own office, which has a large hall suitable for meetings. Arabian dates have been planted in the garden attached to the hall. This would form an excellent Town Hall and Municipal Office. The present Municipal Office is unsuitable, and very small.

The only public garden is the Tiliri Garden situated at a distance of about a mile to the east of the town. It is the only place of resort by the public on festivals and other occasions. The garden has of late been extended for Arabian date plantations which are now yielding fruit. A tube-well has also been sunk in the garden for irrigation in winter. It is likely that Government will take over the garden from the district board.

A Government sarai close to the town has recently been rebuilt by the district board. It has accommodation both for the gentry and for poor people. There is also a public sarai erected by Mussammat Dhanni Bai, widow of Khan Chand, in memory of her husband, near the town wall on the east, and is used by Hindu travellers. Another sarai has recently been built in the heart of the town by Chaudhri Mul Chand Sukhija which is also used by Hindu travellers. A sarai near the railway station was built in the year 1929 in memory of Lala Jesa Ram Pablani. It is a *kachha* and unpretentious building, and is used both by Hindus and Muhammadans.

Between the district courts and the railway station there is an old ginning factory and cotton press. In the town there are four flour mills worked by oil engines and one worked by a gas engine.

Muzaffargarh is now the centre of motor traffic between Multan and Dera Ghazi Khan and Alipur. About 20 motor lorries are plying for hire.

There is a hostel for Muhammadan orphans and poor students on the Muzaffargarh-Mahmud Kot road at a distance of half a furlong from the district courts, and a Hindu orphanage on the bank of the Ganeshwah Canal on the Muzaffargarh-Alipur road near the office of the Executive Engineer, Canals.

There is a sessions house.

There is also a military encamping-ground where the troops in Multan usually halt while doing annual training.

The cemetery is a protected monument.

The district board holds an annual fair in March or April.

Khangarh.

Khangarh is situated on the road leading from Muzaffargarh to Alipur, and is 11 miles from the former and a mile or so from the high bank of the river Chenab. It was the headquarters of the district till 1959. It is a municipal town, and was constituted as such in 1874, and is of the second class. The committee now consists of 7 elected and 2 nominated members and has a non-official president. The land around the town is fertile and more highly cultivated than any other land in the district. The town is compactly built of bricks, with one principal bazar running north and south from which the narrow lanes branch off to the west and east, but the buildings are not cared for. There are a police station, a city police post, a district board high school, a municipal dispensary and a canal rest-house situated on the main road leading to Alipur. There is also a post and telegraph office near the northern gate of the town, primary schools for boys and girls and a municipal office. There is an Honorary Magistrate and Sub-Judge, Khan Abdullah Khan, who is president of the municipal committee. There is a cotton ginning factory (not in use now), and a bazar on the road to Alipur.

Rangpur.

Rangpur is a large village at the extreme north-east of the district near the Jhang District. It has been declared by the local Government as a town for purposes of the Pre-emption Act. It is called Rangpur Kherian Wala after the Khera tribe which predominates in this tract. It is a sub-tahsil of Muzaffargarh, and has a police station, a canal rest-house, a district board dispensary, a district board veterinary hospital, a middle school, a girls' school and a sub-tahsil. It is the largest village in the neighbourhood, and is a trading centre both for the tract adjoining the Chenab and for the eastern half of the Kot Adu Thal. The lands are productive, but much of the lands has now been washed away by the Chenab River. The place is well known for the famous story of Hir and Ranjha which was enacted here. Hir was a Sial Jatti of Jhang Sial, and was given in marriage to a Khera Jat of Rangpur against her parents' wishes. Ranjha, a Dhido Jat of Thakat Hazara, was in love with her, and followed her in the guise of a fakir. He got initiated into the order, and died as a disappointed lover at Rangpur.

Kinjhar.

A fairly large village about 11 miles west of Khangarh. It has a thana, a rural dispensary, a middle school and a canal rest-house. It was more prosperous at one time.

Rohillanwali.

Situated 24 miles from Muzaffargarh on the road to Alipur. There are a rural dispensary, a district board veterinary hospital, a thana, a canal rest-house, etc.

Alipur.

Alipur town is situated on the main road leading south from Muzaffargarh at a distance of 51 miles from the railway station, 6 miles from the Chenab and 15 miles from the Indus. The municipality was first constituted in 1874, and is of the second class. The committee consists of 7 elected and 2 nominated members. It has a non-official president. It is a tahsil headquarters and a sub-division. There is also a Sub-Judge. It is an agricultural centre in a well-cultivated tract. It also has a considerable trade in indigo, snuff and grains.

There are a Government high school, 2 primary schools, a girls' school, a municipal hospital, a district board veterinary hospital, a tahsil, the Sub-Judge's court, thana, judicial lock-up, the Sub-Divisional Officer's court and residence, a rest-house and a post and telegraph office. There is motor traffic to and from Alipur.

The town is compactly built, and most of the streets are well paved and provided with drains.

Khairpur Sadat.

The town of Khairpur Sadat is situated 7 miles to the south-west of Alipur, and is about equidistant from the Chenab and the Indus. It is compactly built, chiefly of bricks, many of the houses being two or three-storeyed. The bazar is well paved, but the streets are too narrow to admit of any wheeled traffic. There are a rural dispensary, a middle school, a girls' school and a post office. It was once a municipality, constituted in 1874, but was abolished in 1909. It is now a small town, constituted in 1924, and the committee consists of 4 elected members and 1 nominated member. It has a non-official president. The small town is a poor one. It was an important place once, when the Indus was nearer and there was trade by boat with Sukkur, but its past glory has long departed.

There is a *thakardwara* sacred to Gopi Nath, and a community of river traders has propitiated the river lord (Daraya Sahib) by building him a temple.

Shahr Sultan.

Shahr Sultan is an important village in the Alipur Tahsil, and is situated on the main road leading from Muzaffargarh to Alipur at a distance of 37 miles from the former and 14 miles from Alipur. It is 1½ miles from the Chenab.

There is the famous shrine of Sultan Ahmad Katal, and a fair takes place annually. The district board also holds an "uplift fair" at the same time. There are a middle school, a primary school, 2 girls' schools, a district board dispensary, a district board rest-house and a post office.

A road branches off from here to Jatoi. The position of the river is suitable for trade in country produce, and there is still some trade by boat with Sukkur.

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It was a municipality, constituted in 1874, but was abolished in 1886. It is now proposed to constitute it a small town.

Sitpur.

Sitpur is an important village in the Alipur Tahsil, and is situated on the main road of the district 11 miles south of Alipur and 3 miles from the Chenab. The country around everywhere testifies to the violent action of the floods. Communication is cut off by floods every year with the north, but only for a short time. In the winter months the ground in these parts is damp. The houses are built on irregular eminences of accumulated debris, which by their extent testify to its antiquity. It is in fact the only place of antiquity in this district. It is divided into two parts—Khanani and Sheikhani—and built irregularly, and has a dilapidated appearance. The buildings of antiquarian interest are the mosque and tomb of Tahir Khan Nahar at the west end of the bazar, both being protected monuments. There is also the shrine of the Makhdum of Sitpur. The present Makhdum, Khan Sahib Sheikh Muhammad Hassan, is an Honorary Magistrate, 1st class, Judge and Provincial Darbari. There are a thana, a middle school, 2 girls' schools, a district board dispensary, a police rest-house and a post office. It was once a municipality, constituted in 1874, but was abolished in 1886. It is now proposed to constitute it a small town.

Jatoi.

Jatoi is situated 11 miles north-west of Alipur and 4 miles from the River Indus. It was once a municipality, constituted in 1874, but was abolished in 1886. It is now a small town, constituted in 1924. The committee consists of 5 electel members and 1 nominated member. The Tahsildar of Alipur is president. The bazar is well paved with bricks, and, like the other towns in Alipur, by matting spread over it, it forms an arcade. There are a police thana, a canal rest-house, a primary school, a middle school and 2 other girls' schools, a post office, a district board veterinary hospital and a district board dispensary. It is also a canal sub-division, with a canal telegraph office. Khan Bahadur Sardar Kaure Khan, Jatoi, a leading man of the place, died sonless and bequeathed some of his property to the district board. This gives about Rs. 8,000 per annum, and is used by the board for stipends and scholarships, etc., mainly to Muhammadan boys.

Leiah.

The town of Leiah is situated in a sandy plain on the old left bank of the Indus. The Lala creek of the river runs about a mile to the west of the town and drains the country.

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To the east the Thal has a firm sandy soil. To the west, on the edge of the *Kachchhi*, are several well-stocked gardens.

It is the headquarters of a tahsil and a sub-division. It was transferred to the Muzaffargarh District in 1909 from the Mianwali District.

It was once the headquarters of a commissionership and of a district. The old sessions court is now used as a rest-house. There is an old ruined salt patrol house. The cemetery is interesting, and is a protected monument. The gardens are the only remains of the old civil station.

The Sub-Divisional Officer's and the Sub-Judge's courts, the post and telegraph office, the tahsil and police buildings, the municipal office and the district board veterinary hospital are situated on the main Muzaffargarh road which runs along the western edge of the town. The Sub-Divisional Officer's residence and the rest-house are also situated near the Sub-Divisional Officer's court on the road leading to Basti Shah Habib.

On the north-west corner of the town a road leads from the Muzaffargarh main road to the railway station along the northern edge of the town. The railway line passes along the eastern edge of the town, and the station lies near the north-east corner of the town.

While entering the town, there is a remarkable dharamsala, constructed by Harjis Rai Gaba in 1904, and it is also used as a sarai for both Hindus and Muhammadans. In front of this building is the excellent building of the Bharatri High School. The building was erected in the name of Indar Bhan, Dhingra, who paid Rs. 50,000 for this purpose. The civil hospital and Government high school are situated on the southern edge of the town.

On the western side of the rest-house there is a district board garden containing a plantation of Arabian date-palms.

The town is known for the manufacture of excellent cotton *kheses* and ivory articles, such as necklaces, napkin-rings, bangles, scent-sprinklers, cigarette and cigar-holders, egg-holders, flower-vases, wine-glasses, small boxes, studs, etc.

The town has a long bazar running north and south, and the other small bazars branch off from it to the east and west. It is compact, chiefly built with bricks, and the bazars are provided with drains. It was constituted a municipality in 1887, and is now a municipality of the second class with 8 elected and 2 nominated members. The president is a non-official.

Situated in the Thal, 40 miles from Leiah, contains a thana, a middle school, a rest-house and a rural dispensary. There is a ruined mud fort of Ranjit Singh's time.

Chaubara.

Situated 15 miles from Chaubara, in the Thal. Quite a big place, with good trade in wool. etc. Has a middle school. There is a ruined fort of Ranjit Singh's time.

Nawankot.

Karor.

Karor, like Leiah, is situated on the old bank of the Indus. It was constituted a municipality in 1887, and is now a municipality of the second class with 7 elected members and 1 nominated member. The Sub-Divisional Officer, Leiah, is president. The main bazar and many of the streets have been paved, and most of the shops and buildings have *pakka* masonry fronts.

Surrounding the town is a circular road planted with trees, but the trees are fast disappearing. To the east runs the main Muzaffargarh-Mianwali road, and on it are situated the middle school, the municipal hospital, the thana, the rest-house and the municipal office. A short branch road leads off from it to the railway station, which is about three-quarters of a mile from the town. On this branch road there is a Dayanand Anglo-Vedic high school, with its boarding-house. The road from the railway station to the town is metalled. A district board veterinary hospital is to be built shortly.

There is a post and telegraph office in the town.

There is the famous shrine of Makhdum Lal Isan, which lies to the east of the town and is well outside the town. Its design and colouring are very tasteful and artistic. The whole is surmounted by a plaster dome which renders the tomb a conspicuous feature of the landscape. Round the tomb, and extending to the north-east, lies an immense cemetery. There is a committee of 5 persons, descendants of Lal Isan, who keep accounts, etc. A muharrir on Rs. 10 per mensem has been appointed by the committee to collect the income, and he records the amount in a register and makes it over every fortnight to the treasurer. The income of the shrine, it is said, is only utilized on the repairs, etc., of the shrine, which are made under the control of the shrine committee. Descendants and disciples are buried in the courtyard which contains the tomb of Ismail Khan. People from all around bring their dead here.

A fair takes place on 14th Bhadon, and lasts for one week; some 30,000 people attend from all parts. There was a larger attendance when the Leiah Tahsil was attached to the Mianwali District as the people of that district took more interest in *doda* and *kushti*, which are much appreciated in this part. The district board holds an " uplift fair " at the same time.

CHAPTER IV.

PLACES OF INTEREST.

There are two flour mills in the town.

Kot Sultan.

This is an important village in the Leiah Tahsil, and has a railway station. It is 14 miles south of Leiah.

There are a middle school, a thana, a canal rest-house and a rural dispensary which are situated on the main Muzaffargarh road running along the eastern side of the village. A branch road leads off from this road to the railway station which is half a mile from the village. On the western side of the town there is a dharamsala.

The pilgrims for Rauza Hazrat Suleman at Taunsa in the Dera Ghazi Khan District detrain at this station. There is a sarai near the railway station constructed by the descendants of Hazrat Suleman for the convenience of pilgrims going to Taunsa.

There is a post office in the town in the charge of a shopkeeper, and telegrams are booked at the railway station.

Daira Din Panah.

This is an important town in the Kot Adu Tahsil situated on the north side of the road from Muzaffargarh to Dera Ghazi Khan. It has a railway station, and is 7 miles north of Kot Adu. Its importance is due to the shrine of Din Panah, of which Khan Bahadur Makhdum Ghulam Qasim is in charge.

A short road leads off from the main road to the railway station, and there is a rural dispensary near the railway station. There are a middle school, a thana and a district board rest-house to the north of the town on the road to Muzaffargarh.

It was a municipality in 1881-82, but this was abolished in 1886. It is now a small town, constituted in 1924, and the committee consists of 4 elected members and 1 nominated member. The present Makhdum is president.

Kot Adu.

This is an important town, with a tahsil headquarters and a canal sub-division. It lies on the east side of the road from Muzaffargarh to Mianwali.

The place was known for the manufacture of bows and arrows, but the art is dying out.

There are a Government high school, a normal school, a district board veterinary hospital, a thana, a district board and a canal rest-house, a district board dispensary, a post and telegraph office, 2 boys' primary schools and 2 girls' schools —all district board.

The Kanshi-gir Fair is held every year in Bhadon. Some 8,000 persons attend the fair. The district board intends to hold a fair at the same time.

CHAPTER IV.

PLACES OF INTEREST.

It was a municipality in 1881-82, but this was abolished in 1886. Again it was constituted a notified area in 1915, but was converted into a small town in 1924. The official president has recently been withdrawn, and now there are 6 elected and 2 nominated members of the small town committee.

Munda. Situated 20 miles from Daira Din Panah in the Thal. Quite a big trading centre—wool, etc. There are a middle school, and a police post and police rest-house. There is a fort of Ranjit Singh's time in a fair condition of preservation.

Sanawan. It is an important village in the Kot Adu Tahsil. It was previously the tahsil headquarters, which were, however, moved to Kot Adu on account of water-logging. The Muzaffargarh-Mianwali road runs along its western side. It has a railway station.

There are a middle school, a district board hospital, 2 girls' schools, a canal rest-house and a police post.

Mahmud Kot. This is the only railway junction station in the Muzaffargarh District. The passengers for Ghazi Ghat and Dera Ghazi Khan detrain here, and a shuttle train runs from Mahmud Kot to Ghazi Ghat, where tongas and motors are usually available for Dera Ghazi Khan. There is a ferry steamer in the flood season when the bridge of boats is dismantled.

There are a railway dispensary, a rest-house and a post office at the railway station. There are also a few shops and a flour mill near the railway station. The village of Mahmud Kot lies at a distance of about 2 miles towards the east from the railway station. In the village there are a middle school, a post office, a police rest-house, a thana and 2 girls' schools.

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